Indiana Business Review

Indiana a Century Ago: Comparing 1890 to 1988

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Indiana a Century Ago

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On April, Indiana, along with the rest of the country, posed for personal and household snapshots taken by the U.S. Bureau of the Census. Over the next two years a massive photograph of our state will slowly develop. Details on housing, employment, migration, education, and income will be seen in relief against the background of age, sex, race, and location. Individual features will not be observable, but the aggregate outlines will be enlightening. For now we could wait, but true census data freaks need not be denied. The 1990 figures will be necessary to analyze the decade of the 1980s, but we do not require those numbers to note the changes of the century.

With the 1988 estimates of population in hand for counties and cities, we returned to the grand Census of 1890 to view Indiana over a 98-year period, which should be a good approximation of the century. It was the 1890 Census, during the administration of Hoosier Benjamin Harrison, that was so complex it gave birth to today's computer industry.

Indiana 1890

One hundred years ago the Census recorded 2,192,404 persons living in Indiana. That number is less than 40% of the 1988 estimate of the state's population of 5,556,500 (see **Table 1**). In 98 years we added more than 3,364,000 to our numbers for an average rate of growth for each decade equal to 9.95%. We are far short of that rate in this decade.

Indiana was not a crowded place in 1890. There were only 61 persons per square mile in the state then; nowadays the figure is closer to 155 persons per square mile, still far from the 500+ densities of New Jersey, Connecticut, and other small eastern states.

Table 1
Indiana's Population History

Year	Population	Change in decade Number	Change in decade Percent	Indiana as a % of U.S.
1890	2,192,404	214,103	10.82	3.50
1900	2,516,462	324,058	14.78	3.30
1910	2,700,876	184,414	7.33	2.93
1920	2,930,390	229,514	8.50	2.76
1930	3,238,503	308,113	10.51	2.63
1940	3,427,796	189,293	5.85	2.59
1950	3,934,673	506,877	14.79	2.60
1960	4,662,498	727,825	18.50	2.60
1970	5,195,392	532,894	11.43	2.56
1980	5,490,224	294,832	5.67	2.42
1988	5,556,500	66,276*	1.21*	2.26

** Data are for eight years only.*

By late nineteenth-century standards, Indiana was not a fast-growing state. During the ten years from 1880 to 1890, our population grew by 10.8% while the nation was growing by 24.9%. We were the slowest-growing of all the midwestern states. As a result, Indiana fell from being the sixth most populous state in 1880 to position number eight in 1890 (today we rank 14th).

It was in 1890 that the center of the nation's population came to rest in Indiana. For the next 50 years, we could lay claim to being the statistical heart of the nation. In 1880 the center of population was eight miles southwest of Cincinnati, but in 1890 it had shifted into Decatur County. Census geographers estimated that Americans were evenly divided east and west, north and south of a point east of Westport near the banks of the Vernon Fork of the Muscatatuck River. From here, south and west of Greensburg or 20 miles east of Columbus, the center would shift west through Bloomington and then toward Vincennes before exiting the state in the 1940s.

Who Were These Hoosiers?

They were white, American-born, and Hoosier-born. Indiana in 1890 ranked fourth among the states in the percentage of persons who were white native-born of native-born parentage.

Indiana at that time had a lower percentage of Blacks than it does now—2.1% compared with 8.4% today (see **Table 2**). The great migrations from the South had not yet begun. Nearly 12% of all Americans were Blacks, but their representation in the northern states was still very small. There has been only a slight proportional increase in the black population relative to the nation, but the geographic distribution has been altered greatly in the past century. Kentucky now has a smaller percentage of Blacks than does Indiana or the nation, a reversal of position. Blacks are a more important part of our state today, but their numeric gains have been far less than in other industrialized northern states.

Nearly three of every four Hoosiers in 1890 had been born in Indiana; 1.6 of the 2.2 million persons in

Table 2
Blacks as a Percent of Total Population

	1890 (Census)	1990 (projection)
United States	11.9	12.4
INDIANA	**2.1**	**8.4**
Illinois	1.5	16.1
Kentucky	14.4	7.5
Michigan	0.7	14.6
Ohio	2.4	11.0

the state were living in their native state. Another 422,560 (about 19% of the total) were U.S.-born citizens who had been born elsewhere in the nation. Nearly 65% of these Hoosiers-by-adoption had come from the four surrounding states (see **Table 3**). The greatest number had been born in Ohio, which led the next biggest contributor, Kentucky, by 100,000.

Because nearly one in every five Hoosiers was the native of another state, we may imagine that they were tied by family and memory to other places. But there were other linkages as well. More than 615,000 residents of other states could claim Indiana as their home (see **Figure 1**). During the nineteenth century, Hoosier-born men and women had migrated to new places, joining other Americans in opening lands for agriculture and preparing the images and myths that would become the western frontier of our imaginations. More than 70% of these native Hoosiers were living in the Midwest, with the greatest concentrations in Kansas and Illinois. Indiana had also helped settle Missouri and Nebraska. No doubt some of the 14,700 Hoosiers in California had sought fortune in the gold fields of that state in the 1850s.

Foreign-born persons accounted for just 6.7% of Indiana's population in 1890 (see **Table 4**). This was

Figure 1
Native Hoosiers Living in Other States: 1890

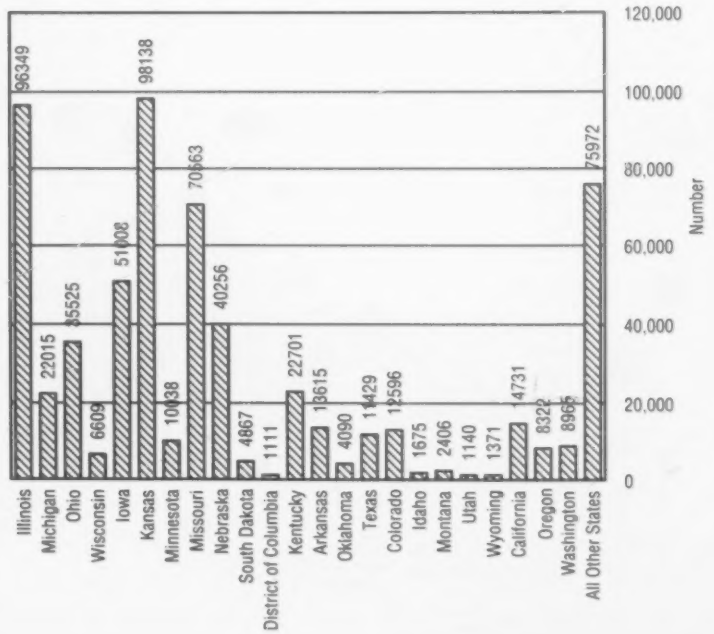


Table 3
Hoosiers of 1890 Born Outside Indiana

State of birth		*Number*	*Percent*
Total		422,560	100.0
East	New York	20,923	5.0
	Pennsylvania	40,491	9.6
Midwest	Illinois	31,116	7.4
	Michigan	11,844	2.8
	Ohio	164,174	38.9
South	North Carolina	13,553	3.2
	Virginia	17,898	4.2
	Kentucky	66,284	15.7
	Tennessee	9,891	2.3
All other states		46,386	11.0

Table 4
Foreign-born Residents of Indiana: 1890

	Number	*Percent*
Total	146,205	100.0
North and South America	5,055	3.5
Canada & Newfoundland	4,954	3.4
Other American nations	101	0.1
Great Britain and Ireland	35,855	24.5
England	11,200	7.7
Scotland	2,948	2.0
Wales	888	0.6
Ireland	20,819	14.2
Germanic nations	90,837	62.1
Germany	84,900	58.1
Austria	544	0.4
Holland	1,157	0.8
Other Germanic nations	4,236	2.9
Slavic nations	4,414	3.0
Russia	576	0.4
Hungary	436	0.3
Bohemia	288	0.2
Poland	3,114	2.1
Latin nations	3,826	2.6
France	3,297	2.3
Italy	468	0.3
Other Latin nations	61	0.0
Asiatic nations	161	0.1
China	91	0.1
Other Asiatic nations	70	0.0
Other nations	542	0.4
Not reported	5,515	3.8

less than half the national representation of foreign-born persons (14.8%) and the lowest in the Midwest (Ohio's was 12.5%, Illinois's 22.6%, and Michigan's 26.0%).

Of our 146,205 foreign-born residents, more than half (84,900) came from Germany. They represented nearly 4% of all the residents in Indiana in 1890. Ireland was the next largest contributor with more than 20,000 persons. The French were represented by only 3,200. Although we think of the French settlers along the Wabash in the western parts of our state, particularly Terre Haute, the number actually

Table 5
Indiana County Populations, 1890 and 1988

County	1890 Number	1890 Rank in State	1890 Percent of State	1988 Number	1988 Rank in State	1988 Percent of State
INDIANA	**2,191,404**			**5,556,500**		
Adams	20,181	52	0.92	31,500	45	0.57
Allen	66,689	2	3.04	303,900	3	5.47
Bartholomew	23,867	37	1.09	64,800	22	1.17
Benton	11,903	82	0.54	9,800	88	0.18
Blackford	10,461	86	0.48	14,500	81	0.26
Boone	26,572	24	1.21	39,000	33	0.7
Brown	10,308	87	0.47	13,200	84	0.24
Carroll	20,021	53	0.91	19,300	71	0.35
Cass	31,152	12	1.42	39,900	32	0.72
Clark	30,259	14	1.38	89,100	15	1.6
Clay	30,536	13	1.39	25,100	60	0.45
Clinton	27,370	22	1.25	31,800	44	0.57
Crawford	13,941	78	0.64	10,200	87	0.18
Daviess	26,227	25	1.2	28,900	50	0.52
Dearborn	23,364	40	1.07	38,100	35	0.69
Decatur	19,277	58	0.88	24,100	61	0.43
Dekalb	24,307	33	1.11	35,500	41	0.64
Delaware	30,131	15	1.37	120,100	10	2.16
Dubois	20,253	51	0.92	36,700	38	0.66
Elkhart	39,201	6	1.79	151,100	6	2.72
Fayette	12,630	80	0.58	27,200	55	0.49
Floyd	29,458	16	1.34	64,600	23	1.16
Fountain	19,558	56	0.89	18,300	76	0.33
Franklin	18,366	63	0.84	20,200	68	0.36
Fulton	16,746	70	0.76	18,700	74	0.34
Gibson	24,920	30	1.14	33,000	43	0.59
Grant	31,493	11	1.44	75,800	19	1.36
Greene	24,379	32	1.11	30,800	46	0.55
Hamilton	26,123	27	1.19	102,300	14	1.84
Hancock	17,829	67	0.81	45,700	27	0.82
Harrison	20,786	49	0.95	29,500	49	0.53
Hendricks	21,498	47	0.98	76,800	18	1.38
Henry	23,879	36	1.09	49,300	25	0.89
Howard	26,186	26	1.19	82,600	17	1.49
Huntington	27,644	21	1.26	36,600	39	0.66
Jackson	24,139	34	1.1	37,200	37	0.67
Jasper	11,185	84	0.51	26,200	58	0.47
Jay	23,478	39	1.07	22,000	66	0.4
Jefferson	24,507	31	1.12	29,900	48	0.54
Jennings	14,608	75	0.67	23,200	63	0.42
Johnson	19,561	55	0.89	85,800	16	1.54
Knox	28,044	19	1.28	40,600	30	0.73
Kosciusko	28,645	17	1.31	65,400	21	1.18
Lagrange	15,615	72	0.71	28,900	50	0.52
Lake	23,886	35	1.09	487,900	2	8.78
LaPorte	34,445	10	1.57	105,600	12	1.9
Lawrence	19,792	54	0.9	43,000	28	0.77
Madison	36,487	8	1.67	131,800	7	2.37
Marion	141,156	1	6.44	791,900	1	14.25
Marshall	23,818	38	1.09	41,800	29	0.75
Martin	13,973	77	0.64	11,300	86	0.2
Miami	25,823	28	1.18	37,600	36	0.68
Monroe	17,673	69	0.81	103,100	13	1.86
Montgomery	28,025	20	1.28	35,500	41	0.64
Morgan	18,643	60	0.85	54,900	24	0.99
Newton	8,803	88	0.4	13,800	82	0.25
Noble	23,359	41	1.07	38,600	34	0.69
Ohio	4,955	92	0.23	5,500	92	0.1
Orange	14,678	74	0.67	19,300	71	0.35
Owen	15,040	73	0.69	17,700	77	0.32
Parke	20,296	50	0.93	15,600	80	0.28
Perry	18,240	64	0.83	18,900	73	0.34
Pike	18,544	62	0.85	12,900	85	0.23
Porter	18,052	66	0.82	124,300	9	2.24
Posey	21,529	45	0.98	26,300	57	0.47
Pulaski	11,233	83	0.51	13,300	83	0.24
Putnam	22,335	42	1.02	30,200	47	0.54
Randolph	28,085	18	1.28	27,600	54	0.5
Ripley	19,350	57	0.88	25,300	59	0.46
Rush	19,034	59	0.87	18,400	75	0.33
St. Joseph	42,457	5	1.94	244,200	4	4.39
Scott	7,833	89	0.36	20,900	67	0.38
Shelby	25,454	29	1.16	40,200	31	0.72
Spencer	22,060	43	1.01	20,200	68	0.36
Starke	7,339	90	0.33	22,200	65	0.4
Steuben	14,478	76	0.66	28,100	52	0.51
Sullivan	21,877	44	1	20,200	68	0.36
Switzerland	12,514	81	0.57	7,400	90	0.13
Tippecanoe	35,078	9	1.6	125,400	8	2.26
Tipton	18,157	65	0.83	16,300	79	0.29
Union	7,006	91	0.32	6,900	91	0.12
Vanderburgh	58,809	3	2.68	166,400	5	2.99
Vermillion	13,154	79	0.6	17,500	78	0.31
Vigo	50,195	4	2.29	107,500	11	1.93
Wabash	27,126	23	1.24	35,600	40	0.64
Warren	10,955	85	0.5	8,400	89	0.15
Warrick	21,161	48	0.97	46,400	26	0.84
Washington	18,619	61	0.85	23,200	63	0.42
Wayne	37,628	7	1.72	72,300	20	1.3
Wells	21,514	46	0.98	26,400	56	0.48
White	15,671	71	0.72	23,700	62	0.43
Whitley	17,768	68	0.81	27,900	53	0.5

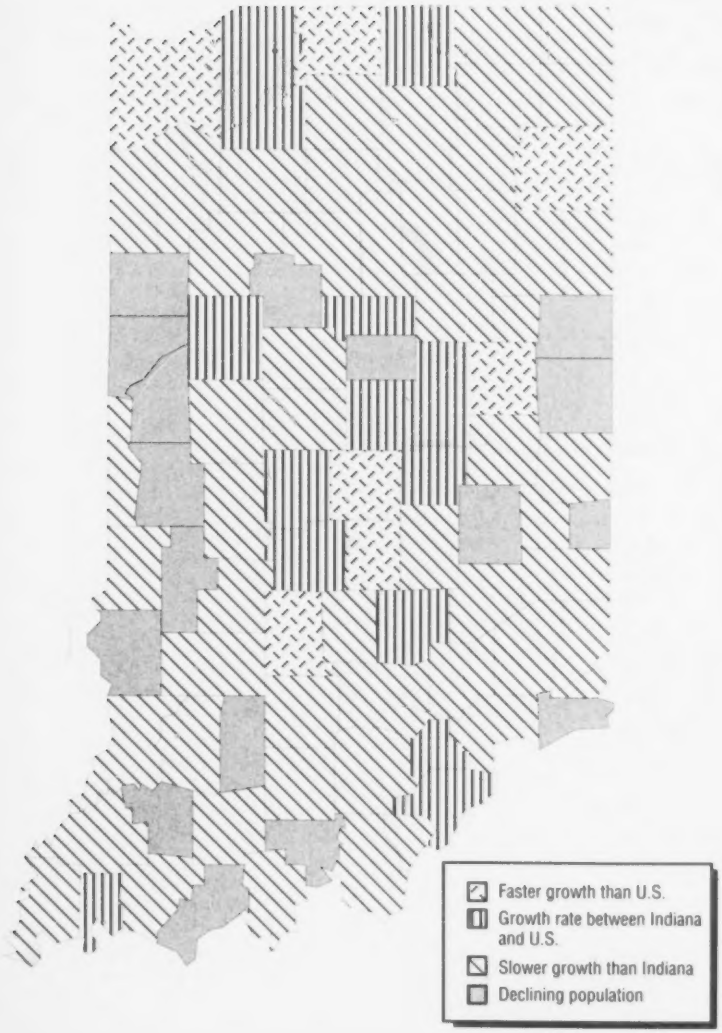
born in France was small. In 1890, the Italian migrations to America had begun, but no great numbers had reached Indiana. The strength of Eastern Europe had yet to hear the factory whistles of Lake County.

Hoosier Counties

Some places have not changed much in number during the past 98 years. Back in 1890 Ohio County was Indiana's least populous county, with just under 5,000 persons. That small county in the southeastern corner of the state is today still the smallest in both land area and population. Its 1988 population did increase, however, to 5,500. North by a few miles, Union County has today about the same number of persons—7,000—that it had in 1890.

In all, 75 of Indiana's 92 counties have larger populations today than they did in 1890 (see **Table 5**). The growth leader in number of persons is no surprise: Marion County has added nearly 651,000 since 1890. It was our largest county then, and it has been ever since. But there have been dramatic changes in the intervening decades. The percentage growth leader is not any of the burgeoning suburban counties (Hamilton, Porter, or Warrick), but Lake County, with a growth rate ten times that of the state. In 1890 there were fewer than 24,000 persons in Lake County, compared with nearly 488,000 in 1988. In that space of time, Lake County has advanced from 35th in the state to second. This followed a remarkable advance from 71st position in 1880, as Lake County led the state in the rate of growth a century ago. (**Figure 2** compares the growth rates of Indiana counties to those of the state and nation.)

Figure 2
Growth Rates of Indiana Counties Compared to Those of the State and the U.S.



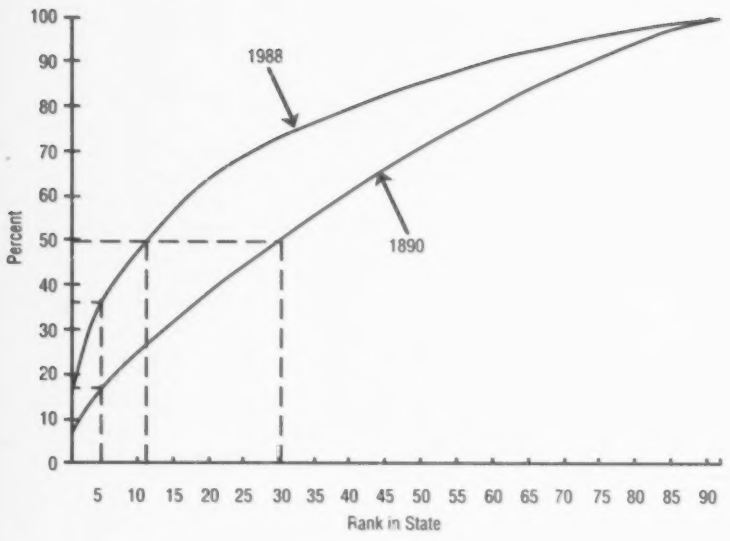
During the 1880s, southeastern Indiana fell on hard times. Dearborn, Decatur, Franklin, Jefferson, Jennings, Ohio, Switzerland, and Union counties all lost population. These eight counties were among the 25 Hoosier counties out of 92 that declined in population during the 1880s. Rural America, demographers of the time noted, was being depopulated. But despite the fact that more than one-quarter of the state's counties declined in population, Indiana was actually going against the trend. In total, our rural areas continued to add population in the 1880s.

In 1880, Wayne County had the fifth highest population in the state (38,613) and 1.95% of the state's population. Wayne, along with the top four counties (Marion, Allen, Vigo, and Vanderburgh), contained 14.4% of the state's population.

By 1890, Wayne County had been displaced in the top five (it moved down to seventh) and St. Joseph occupied fifth place (up from eighth), with 42,457 or 1.94% of the 1890 state total. Hence, to be in fifth place the necessary population had increased by 3,800 persons although the share of the state remained the same. The top five counties now had 16.4% of the Hoosier citizenry.

The geographic concentration of the state's population has advanced dramatically (see **Figure 3**). The top five counties had 14.4% and 16.4% in 1880 and 1890; in 1988 they had 35.9%. In the list of most populous counties, Marion, Allen, Vanderburgh, and St. Joseph remain, with Lake now replacing Vigo. Vanderburgh, qualifying as fifth in 1988 with 2.99% of the state's population, had 166,400 persons—nearly four times the number in St. Joseph County when it held fifth place 100 years ago. Back in 1890 it

Figure 3
Geographic Concentration of Indiana Population



would have taken a trip to 30 counties to meet half the people in the state; today the majority live in just 12 counties, and they can all be reached electronically—simultaneously, if they are tuned in.

Hoosier Cities

Indiana had 18 cities of 8,000 or more persons in the year 1890 (see **Table 6**). To put that into perspective, in 1988 we had 74 cities of that size. In our times, Plymouth, Chesterton, Tell City, and Mount Vernon all have populations exceeding 8,000.

The largest city in Indiana 100 years ago was Indianapolis, with just over 105,000 persons. It was the nation's 27th largest city. Today, Indianapolis has more than 727,000 residents and ranks about 13th in the nation. To have some idea of the size of Indianapolis's population in 1890, we need to think in terms of South Bend today. But changes in urban transportation have altered the geographical distribution of today's cities. Hence, South Bend in 1990 does not have the same high population density that was true of Indianapolis in 1890.

The 18th largest Indiana city in 1890 was Kokomo, with nearly 8,300 persons. Today number 18 would be Michigan City, with more than 35,000. Both Kokomo and Michigan City are among the 13 cities that have remained on the list of Indiana's 18 largest cities.

Not on the list in 1890 were any places in Lake County. The steel mills were more than a decade away from being built at that time. Today, the 18 largest cities would include Gary (#3), Hammond (#6), and East Chicago (#17), all in Lake County. Also not on the list in 1890 were Bloomington, which today is 10th, and Mishawaka, now 14th.

These five rapidly growing cities have replaced Jeffersonville (today #32), Logansport (#37), Madison (#56), Marion (#19), and Vincennes (#34). Of course, the 1990 Census results may change these rankings again.

As a group, the 18 largest cities of the 1880s grew during that decade by nearly 42% compared with the state's growth rate of just under 11%. They added nearly 118,000 to their numbers, thereby accounting for more than 55% of the total growth in the state's population. In 1880 they equaled 14.3% of the state's population; by 1890 they held 18.3%.

Four cities on the list more than doubled in population in the 1880s. Marion led the parade of growth with a 176% increase, as it moved from 3,200 to 8,800 persons. Only one place, Madison, failed to grow. Indianapolis added 30,000 persons during those ten years and Evansville followed with a 21,000 addition to its population.

It was a time when young people were leaving the farms for the new jobs in the expanding manufac-

Table 6
Cities over 8,000 persons in 1890

Rankings					*Change 1890 to 1988*	
1890	*1988*	*City*	*1890*	*1988*	*Number*	*Percent*
1	1	Indianapolis	105,436	727,130	621,694	589.6
2	4	Evansville	50,756	128,210	77,454	152.6
3	2	Fort Wayne	35,393	179,810	144,417	408.0
4	9	Terre Haute	30,217	56,330	26,113	86.4
5	5	South Bend	21,819	106,190	84,371	386.7
6	16	New Albany	21,059	37,540	16,481	78.3
7	15	Richmond	16,608	39,200	22,592	136.0
8	12	Lafayette	16,243	44,290	28,047	172.7
9	37	Logansport	13,328	17,290	3,962	29.7
10	11	Elkhart	11,360	45,250	33,890	298.3
11	7	Muncie	11,345	73,320	61,975	546.3
12	18	Michigan City	10,776	35,330	24,554	227.9
13	8	Anderson	10,741	60,720	49,979	465.3
14	32	Jeffersonville	10,666	21,210	10,544	98.9
15	56	Madison	8,936	11,800	2,864	32.1
16	34	Vincennes	8,853	20,170	11,317	127.8
17	19	Marion	8,769	34,980	26,211	298.9
18	13	Kokomo	8,261	43,950	35,689	432.0
		Total	**400,566**	**1,682,720**	**1,282,154**	**320.1**

turing plants that were growing along railroad sidings throughout the urban landscape. In addition, cities were expanding their boundaries and taking in the suburbs of their days. As new homes were built and urban transit lines were extended in this era of the horse cart and trolley car, the cities of Indiana represented more of their counties.

Although their growth has slowed considerably in this century, these 18 cities have come to represent more than 30% of the state's population (compared with 18.3% in 1890). Whereas these 18 accounted for more than 55% of the state's growth in population from 1880 to 1890, they represented 38% of that growth from 1890 to 1988. While the state excluding these cities grew by 116%, these 18 advanced by 320%.

Indianapolis, Muncie, Anderson, Kokomo, and Fort Wayne were the percentage growth leaders in this period. Eight of the 18 cities, however, did not match the 154% increase achieved by the state since 1890. Although none of these eight cities have declined in population, Logansport and Madison have been averaging additions of 40 or fewer persons per year for the past century.

In 1880, these 18 cities had populations equal to 44% of their counties. Ten years later, the majority of the populations in these counties were in the major cities (see **Table 7**). This was not true everywhere, however. Whereas 86% of the Vanderburgh County population lived in Evansville and 75% of Marion County residents were in Indianapolis, less than 30% of Grant, Elkhart, and Madison counties' residents lived in the cities of Marion, Elkhart, and Anderson.

By 1988, cities had expanded to represent 61.4% of their counties. Indianapolis, through growth and annexation, climbed to 92% of Marion County. Evansville, by contrast, had fallen from 86% to 77% of Vanderburgh County and was one of the six cities that in 1988 represented a smaller portion of its county than it had in 1890. This relative shrinkage occurs when other cities in a county become urban centers in their own right, or when suburban areas resist incorporation into the fold of the central city's governmental garment. Mishawaka and West Lafayette are examples of cities currently adjacent to larger entities that might fall into either of these classifications. Goshen and LaPorte are cities still at a distance from, but growing toward, their larger neighbors, Elkhart and Michigan City. As these two places have grown, they have restrained the potential relative importance of their larger neighbors within the counties.

Table 7
Cities Over 8,000 Persons in 1890 as a Percent of County Population in 1890 and 1988

City	*County*	*1890*	*1988*
Indianapolis	Marion	74.7	91.8
Evansville	Vanderburgh	86.3	77.0
Fort Wayne	Allen	53.1	59.2
Terre Haute	Vigo	60.2	52.4
South Bend	St. Joseph	51.4	43.5
New Albany	Floyd	71.5	58.1
Richmond	Wayne	44.1	54.3
Lafayette	Tippecanoe	46.3	35.3
Logansport	Cass	42.8	43.3
Elkhart	Elkhart	29.0	29.9
Muncie	Delaware	37.7	61.0
Michigan City	LaPorte	31.3	33.5
Anderson	Madison	29.4	46.1
Jeffersonville	Clark	35.2	23.8
Madison	Jefferson	36.5	39.5
Vincennes	Knox	31.6	49.7
Marion	Grant	27.8	46.1
Kokomo	Howard	31.5	53.2
18 cities combined		**51.8**	**61.4**

In these few pages we have not been able to explore the full wealth of information available from a Census. Yet we have seen two key, repeated, but opposed findings: Change is not uniform, and there is much stability over time. When the 1990 Census becomes available for analysis, we can then note the changes of our times and the stable linkages with our past.

Note: The source for all 1880 and 1890 data was the microfilm record of the Census of 1890, U.S. Department of Commerce, Bureau of the Census. The 1988 estimates of population are also from the Bureau of the Census via EDIN tables. Other data for our times were obtained from the Statistical Abstract of the United States, 1990, published by the Bureau of the Census. Research assistance was provided by Michael Steele.

A LaPorte County Profile

Tantatape Brahmasrene
Assistant Professor of Economics, Purdue University North Central

LaPorte County is one of three Indiana counties bordered by Lake Michigan. An estimated population of 105,600 in 1988 ranks it 12th in the state. The major cities in LaPorte County include Michigan City, with a 1988 population of 36,850, and LaPorte, with 21,796 in 1988.

Michigan City is the retail hub of LaPorte County. The Lighthouse Place Manufacturers' Outlet Mall has attracted numerous shoppers to this area. The north LaPorte County area is developing its tourist potential with the investment of millions of dollars in restaurants, retail shops, and recreational facilities.

The City of LaPorte, the county seat, is in the early stages of developing 100 acres as an industrial park. Small manufacturing firms, attracted by the interstate highway system, are gradually moving into the LaPorte area. These are among the visible factors that stimulate business activities in this area.

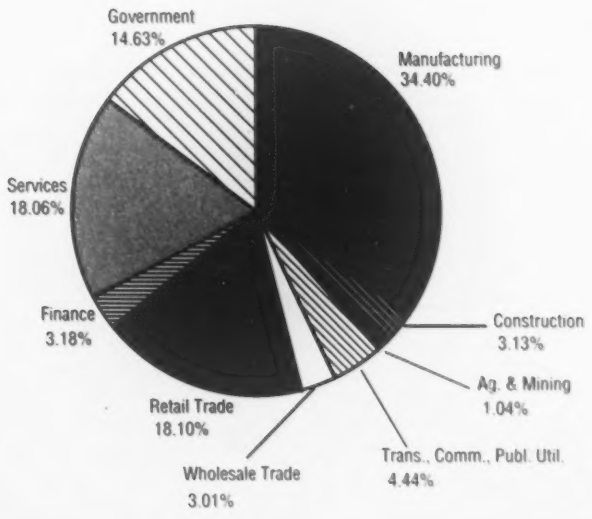
Industry and Employment

LaPorte County had the highest number of manufacturing establishments and employees in 1988 among the other counties within the Kankakee Valley Service Delivery Area (an area also including Porter, Jasper, Newton, Starke, and Pulaski counties). It ranked 7th in the state in the number of manufacturing establishments and 11th in manufacturing employment in 1987. During the last five years, the number of manufacturing establishments has increased by 32.3% (60 facilities). Manufacturing is the major industry of LaPorte County, representing on average 34.4% of industrial employment from 1980 to 1987 (see **Figure 1**). However, employment growth has climbed rather slowly. The number of jobs in manufacturing was only 1% (83 jobs) greater in 1987 than during the recession of 1982.

The major manufacturing firms in the county include the Anderson Company, Sullair Corporation, Weil-McLain Company, and Jaymar-Ruby Incorporated. These firms each employ from 500 to 1,000 workers, although the average number of employees per manufacturing establishment in the county is 62. Some of the products manufactured by the area's industries include windshield wiper blades and arms, air compressors, boilers, radiator equipment, and clothing. These products offer export opportunities.

Much of the recent growth has been in the retail trade and service industries. During the period 1980 to 1987, retail trade and services each took 18.1% of the total industry employment. Employment growth between 1982 and 1987 in the service sector increased by 13.5% (870 jobs) and in the retail sector by 19.7% (1,267 jobs). Between 1986 and 1987, wholesale trade and construction outgrew other industry employment in this area, with increases of 13.7% and 7.8%. Transportation, communication, and public utilities were the only industries that experienced a loss of jobs between 1982 and 1987. From 1982 to 1988 the county experienced overall employment growth of 14.5% (6,080 jobs), less than 1% above the state level (see **Figure 2**).

Figure 1
Relative Share of Industry Employment
LaPorte County (Average 1980-87)



Residential and Nonresidential Construction

The type of housing constructed during any period of time is affected by a combination of economic conditions and governmental policies. In its service delivery area, LaPorte County was responsible for 22.3% of the number of residential building permits during 1976-1988 (see **Figure 3**). The number of residential buildings in the area has grown at an annual rate of 11%. The average annual growth of the number of residential buildings in LaPorte County has been about 8.3% since 1982, although last year's growth was only 4.4% (see **Figure 4**).

Between the first quarters of 1988 and 1989, the number of single-family unit permits remained unchanged (see the **Table**). That number increased 33.3%, however, between fourth quarter 1988 and first quarter 1989. Two-family housing units increased by 50% between the first quarters of 1988 and 1989 and by 66.7% from fourth quarter 1988 to first quarter 1989.

There was an overall decline in total housing units in 1988 and 1989. This decline may have occurred in response to rising mortgage rates in 1987.

Figure 2
Employment Index
LaPorte County and Indiana (1979 = 100)

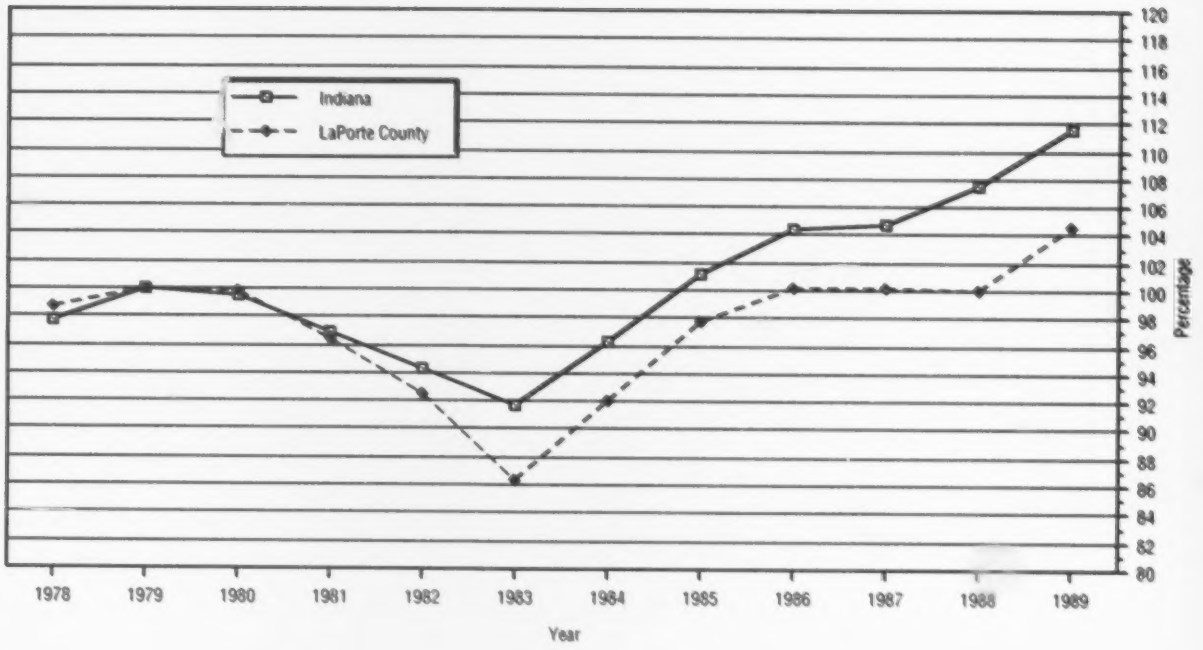
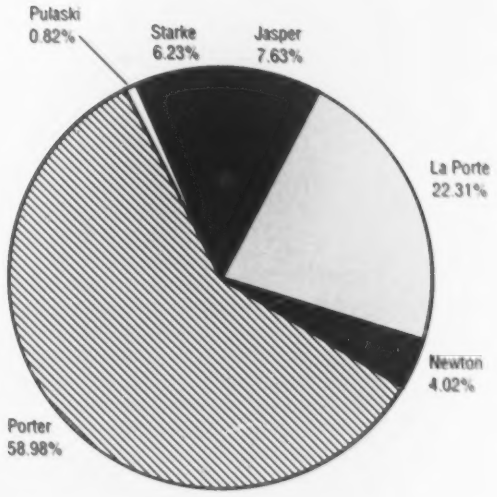


Figure 3
1976-88 Residential Permits in Kankakee Valley SDA

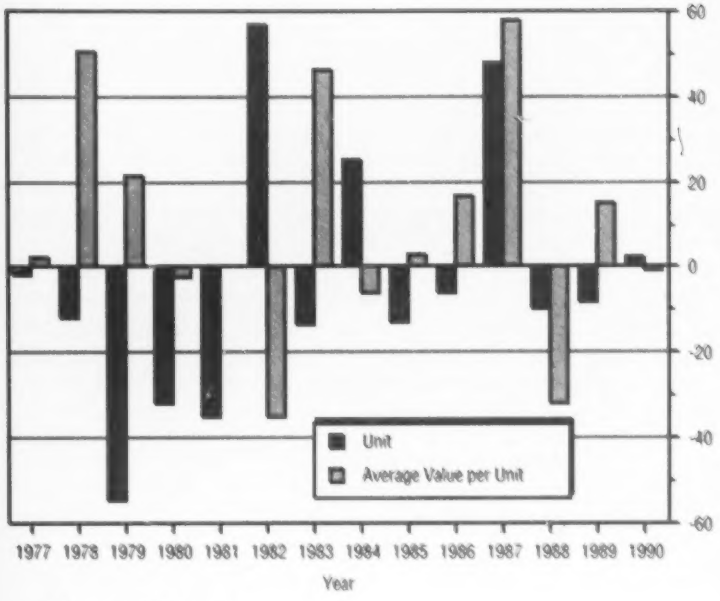


Single-family homes are especially sensitive to changes in interest rates. The statewide number of single-family homes as a percentage of all housing units increased from 69.3% in 1987 to 76.1% in 1988. Locally, the figure was up from 95.1% to 95.3%. These figures also indicate LaPorte County's high proportion of single-family housing.

Nonresidential structures became stronger than residential housing last year. New nonresidential building permits increased by 21.1% (from 199 in 1987 to 241 in 1988).

Housing costs, as previously mentioned, rose significantly during the 1980s. Between first quarter 1988 and first quarter 1989, the average value per unit increased by 30.1% for single-family units and 127.5% for two-family houses. While housing markets were affected by rising prices, the average value of LaPorte County's housing between 1984 and 1988 remained well below the state average. During that time the county's average value of housing was $49,000, a substantial increase of 27.3% from the 1984 average of $38,500 (see **Figure 5**). Indiana's average housing value was $47,900 in 1984 and $72,300 in 1988, an increase of 50.9%.

Figure 4
Residential Housing



1989 Estimated; 1990 Projected

A Look at the Future

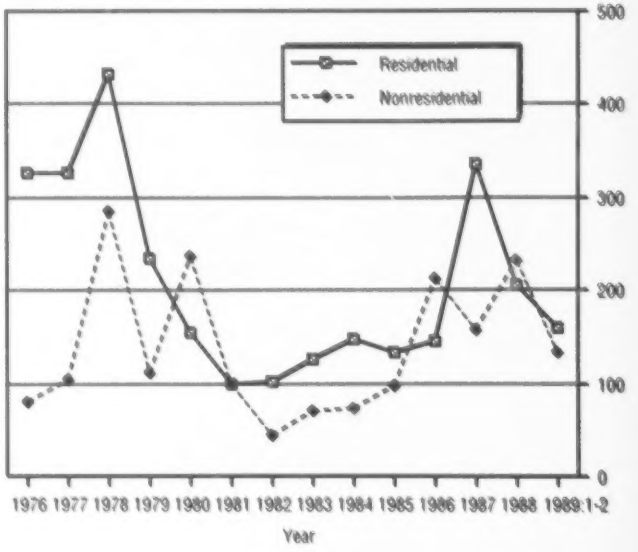
LaPorte County's economic growth is anticipated to be parallel with the state's by exhibiting a modest economic slump. The estimated employment growth may end up falling by less than 1% by the end of the year. The sluggish growth in manufacturing employment may be overcome by the potential growth that is seen in service industries such as restaurants, hotels, motels, and various business services.

After the recession of 1981-1982, the average value of housing climbed to a 1987 peak that corresponded to an increase in mortgage rates. This effect lessened in later years due to several financial market innovations and changing regulations that affected mortgage markets. The average housing value is anticipated to fall in 1990. Developers' efforts to remain cost-competitive in housing markets, coupled with an increase in productivity as a result of a substantial reduction of capacity utilization, can be linked to these circumstances. The number of housing units in LaPorte County is projected to increase by 2% in 1990, but this growth may appear only in the northern region of the county. This is evidenced by the construction of an 11-story, 68-unit luxury condominium near Lake Michigan. Given the increase in tourism for the area, LaPorte County, at least for the moment, should fare relatively well in the face of a recession.

Table
Selected Data for Residential Housing Construction

	1988:1	1988:4	1989:1	% Change 1988:1 1989:1	% Change 1988:4 1989:1
Single Family Houses					
Number of Permits Issued	36	27	36	0.0	33.3
Estimated Value of Permits Issued	$1,912,742	$1,618,300	$2,487,850	30.1	53.7
Average Value Per Unit	$53,132	$59,937	$69,107	30.1	15.3
Two-Family Buildings					
Number of Permits Issued	2	3	5	150.0	66.7
Estimated Value of Permits Issued	$80,000	$122,000	$455,000	468.8	273.0
Number of Units	4	6	10	150.0	66.7
Average Value Per Unit	$20,000	$20,333	$45,500	127.5	123.8

Figure 5
Value of Permits (1981 = 100)



A Statistical Overview of LaPorte County

Carol O. Rogers
Manager, Public Information and EDIN Project, Indiana Business Research Center

When considering the people and affairs of a county, it is necessary to understand the size and characteristics of the population, the types of work opportunities available to them, and the nature of the business and industrial communities within that county. This overview of LaPorte County considers these factors using the most recent data available, but does not include information from the latest census. Without those valuable characteristics that the decennial census provides, we will instead provide an overview based upon current estimates of population, including gender and age data, employment, income, and business estimates.

With these limitations in mind, we are able to produce an overall picture of LaPorte County as it more or less exists today. Much of the data utilized are 1988 estimates, with comparisons to earlier years. Providing a more detailed picture of the retail and service industries was possible because of the recent release of data from the 1987 Economic Censuses.

The People

LaPorte County is home to more than 100,000 people—50% of whom are females (see **Table 1**). The county's population total has remained stable over the past 20 years, although it is projected to decline somewhat into the next century to just under 100,000 (see **Figures 1** and **2**). Based on 1988 estimates, LaPorte County ranked 20th in population in Indiana. Close to 15% of its people are retirement age and older, while 30% are under the age of 20.

In 1988, nearly half of the county's population was in the labor force, and 95% of those were employed (see **Table 2**). The majority of jobs are in the private sector, including 26% in manufacturing, 22%

Table 1
The Population

	Census 1970	*Census 1980*	*Estimate 1988*	*%Chg 70-80*	*%Chg 80-88*	*1988 % of Total Pop.*
Total	**105,300**	**108,600**	**105,600**	**3.13%**	**-2.76%**	**100.00%**
Female	53,153	54,673	52,800	2.86%	-3.43%	50.00%
Nonwhite	7,362	9,770	10,060	32.71%	2.97%	9.53%
Less than 20 years	40,534	35,824	31,730	-11.62%	-11.43%	30.05%
65 years and older	9,596	11,571	13,960	20.58%	20.65%	13.22%

Source: U.S. Bureau of the Census and the Indiana Business Research Center and EDIN.

Figure 1
Population Percent Change: 1980-2020
Indiana and LaPorte County

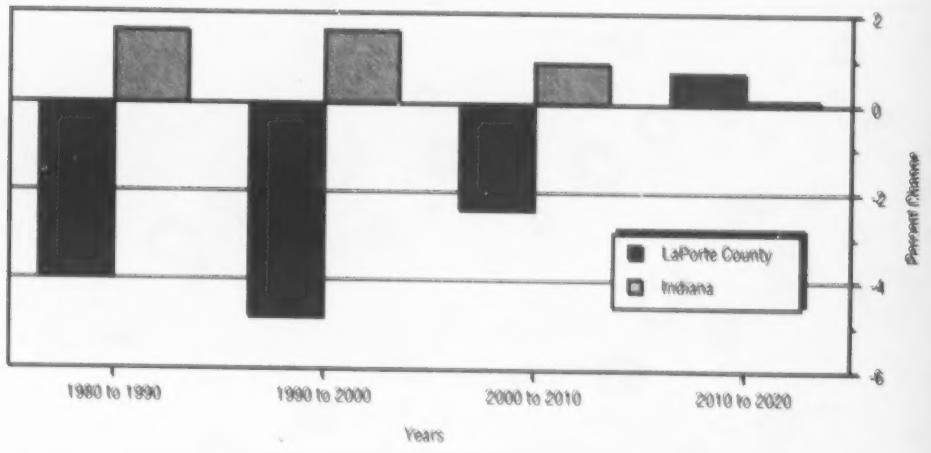


Figure 2
Projected Population Change by Age: 1990-2000
LaPorte County

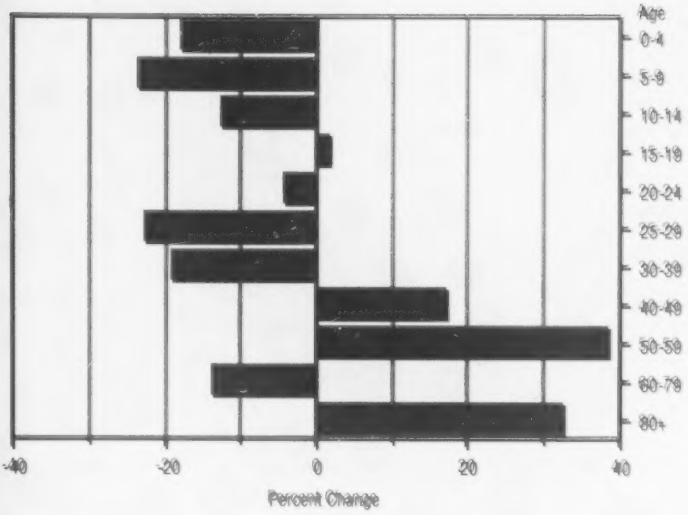


Table 2
The Labor Force

	1978	1986	1989	% Change 78-86	% Change 86-89
Total Labor Force	49,331	50,900	51,260	3.18%	0.71%
Employed	46,339	46,800	48,650	0.99%	3.95%
Unemployed	2,991	4,100	2,610	37.08%	-36.34%
	6.1%	8.1%	5.1%		

Source: Indiana Dept. of Employment and Training Services and EDIN

Table 3
Employment by Sector

	1978	1982	1988	%Chg. 82-88	% of Total in 1978	% of Total in 1988
Total	50,180	45,480	51,324	12.85%	100.00%	100.00%
Farm	1,753	1,613	1,345	-16.62%	3.49%	2.62%
Non-farm	48,427	43,867	49,979	13.93%	96.51%	97.38%
Manufacturing	16,980	12,668	13,362	5.48%	33.84%	26.03%
Retail	8,382	7,948	9,236	16.21%	16.70%	18.00%
Services	8,793	9,341	11,527	23.40%	17.52%	22.46%
Government	6,149	6,275	6,919	10.26%	12.25%	13.48%

Source: U.S. Bureau of Economic Analysis and EDIN

Table 4
Personal Income (Current Dollars)

	1978	1982	1988	Percent Change 78-82	Percent Change 82-88
Earnings ($000)	619,015	715,187	995,664	15.54%	39.22%
Personal Income ($000)	887,412	1,153,639	1,573,836	30.00%	36.42%
Per Capita ($)	$8,156	$10,634	$14,909	30.38%	40.20%

Source: U.S. Bureau of Economic Analysis and EDIN

services, and 18% retail (see **Table 3**). The government sector accounted for 14% of the employment, and less than 3% were employed in farming.

LaPorte County personal income, the income received by all individuals in the county from all sources, was $1.5 billion in 1988, nearly 2% of the state's total personal income (see **Table 4**). That share of the state total has remained constant throughout the 1980s. Per capita personal income has also remained close to that of the state. In 1988 the per capita income in LaPorte County was nearly $15,000, ranking 20th in the state (see **Figure 3**). Between 1980 and 1983, it ranked 13th. By 1984 it fell to 25th in the state, and since 1986 it has remained 20th.

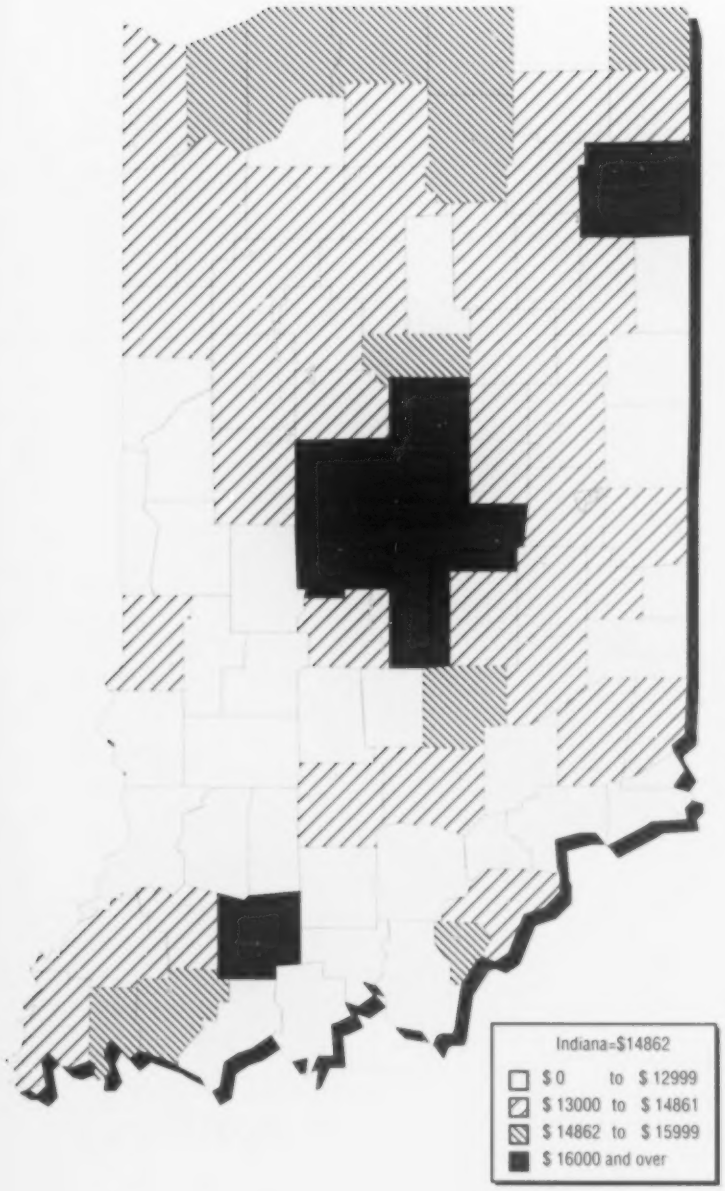
LaPorte County generated earnings of nearly $1 billion, and the net income brought into the county by residents working elsewhere (in other counties or other states) was $182 million, making LaPorte County an "importer" of income and an "exporter" of labor.

The Business

The business of the county is structured around manufacturing, its base industry. According to County Business Patterns data, in 1987 there were 192 manufacturing establishments employing 12,000 people. Most were engaged in making fabricated metal products (36 establishments), nonelectrical machinery (29 establishments), and rubber and plastics (14 establishments). Overall, the manufacturing establishments in LaPorte County had an average of 62 employees, indicating the predominance of large companies. According to the 1990 Industrial Outlook of the U.S. Department of Commerce, the three industries in which LaPorte County has a substantial presence were forecast to grow during 1989 and 1990 and to have very good export growth potential as well.

To support these large employers and their employees, there were 627 retail establishments and 722 service establishments. The 1987 Economic Censuses of Retail and Service provide more detailed

Figure 3
Estimated Per Capita Personal Income 1988 ($)



perspectives on these industries. Since 1977, the number of retail establishments has remained relatively stable, although there were 10 fewer in 1987 than a decade before (see **Table 5**). Those 625 retailers employed nearly 7,000 people (an increase of less than 1% since 1977) and had nominal sales per capita of $5,364. In 1982 dollars, however, those sales per capita were $4,485—just $500 more than the sales in 1977 (again, expressed as 1982 dollars).

Auto dealers accounted for the highest percentage of total retail sales (24%), whereas food stores accounted for merely 20% (see **Table 6**). Competition between car dealers was certainly exacerbated by an increase of dealers from 45 in 1982 to 52 in 1987. A net loss of one food store occurred during the same five-year time span, and there were 16 fewer gas stations.

The service industries grew substantially over the decade between 1977 and 1987, with 219 more such establishments employing a total of nearly 5,000 people (see **Table 7**). Receipts per capita increased from $387 to $1,748. Expressed in 1982 dollars, receipts equalled $1,462 in 1987, compared to $324 in 1977. Health services, which included private hospitals for the first time with the 1990 Census, accounted for 43% of the total receipts; business services accounted for 13.8% and auto repair 8.2% of the total receipts (see **Table 8**).

Table 5
Retail Trade

	1977	1982	1987	%Chg. 77-87	%Chg. 82-87
Establishments	635	597	625	-1.6%	4.7%
Employees	6,869	6,087	6,923	0.8%	13.7%
Sales (millions)	$372.1	$432.6	$561.1	50.8%	29.7%
Sales per capita	$3,429	$3,986	$5,364	56.4%	34.6%
Payroll (millions)	$42.4	$48.6	$62.6	47.6%	28.8%
Payroll per employee	$6,179	$7,991	$9,046	46.4%	13.2%

Source: U.S. Bureau of the Census

Table 6
Retail by Type of Business

	Percent of Total Sales		Number of Establishments		Sales as
	1982	1987	1982	1987	% of State
Auto Dealers	17.1	23.9	45	52	1.7
Food Stores	23.7	20.4	58	57	1.9
General Merchandise	12.7	12.6	15	19	1.7
Eating & Drinking	9.3	8.7	163	159	1.5
Gas Stations	13.8	7.5	64	48	1.6
Building Materials	4.8	5.9	30	31	1.7
Misc. Retail	5.2	5.7	95	109	1.0
Apparel & Accessories	5.0	5.5	67	72	2.4
Drug Stores	4.9	5.1	18	20	2.1

Source: U.S. Bureau of the Census

Table 7
Service Industry

	1977	1982	1987	%Chg. 77-87	%Chg. 82-87
Establishments	331	457	550	76.8%	20.4%
Employees	1,965	3,685	4,967	152.8%	34.8%
Receipts (millions)	$42.0	$105.0	$182.9	335.5%	74.2%
Receipts per capita	$387	$967	$1,748	351.7%	80.8%
Payroll (millions)	$13.0	$43.3	$67.5	419.2%	55.9%
Payroll per employee	$6,637	$11,760	$13,599	104.9%	15.6%

Source: U.S. Bureau of the Census

Table 8
Services by Type of Business

	Percent of Total Receipts		Number of Establishments		Receipts as
	1982	1987	1982	1987	% of State
Health Services	43.4	43.4	127	151	2.2
Business Services	NA	13.8	NA	71	1.2
Auto Repair & Garages	8.0	8.2	57	67	1.4
Misc. Repair	NA	8.1	NA	32	3.3
Professional Services	NA	6.6	NA	45	1.0
Personal Services	NA	5.8	NA	81	1.6
Hotels, Motels, etc.	NA	5.3	16	21	1.9
Legal Services	4.7	3.4	34	37	1.0
Amusements	4.4	3.3	20	28	1.0

Source: U.S. Bureau of the Census

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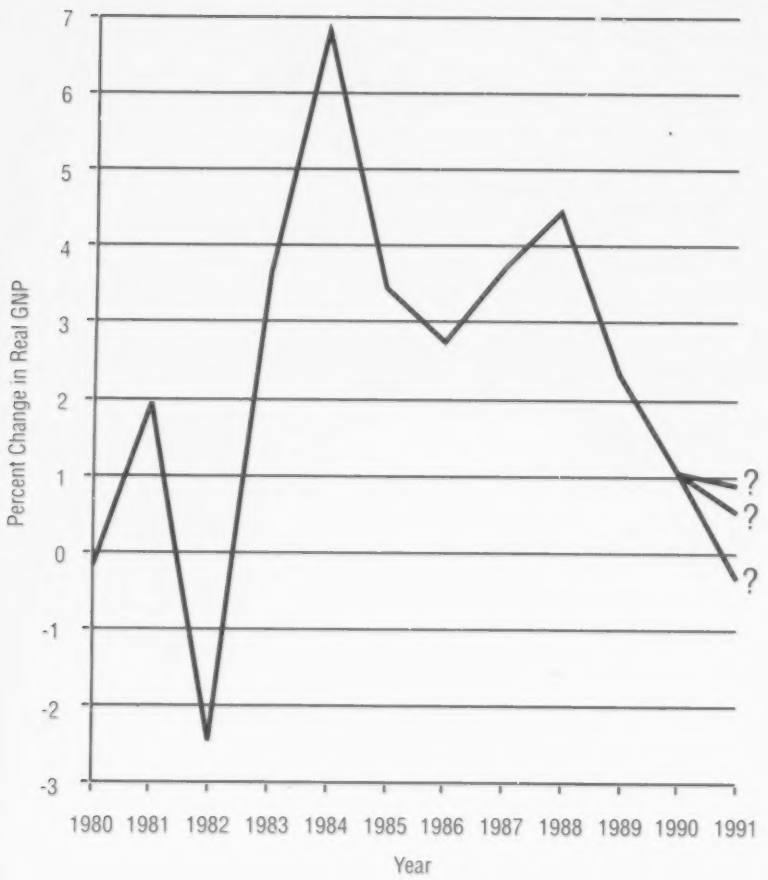

The Outlook for 1991

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Bruce L. Jaffee

Professor and Chairperson, Business Economics and Public Policy, Indiana University School of Business

Last year we predicted that the economy in 1990 would grow more slowly than in 1989, but that a recession would be avoided. We thought then that the year-to-year change in real GNP between 1989 and 1990 would be no more than 2%. Our forecast was on target until the third quarter, when Iraq's invasion of Kuwait and the subsequent rapid rise in oil prices, combined with military actions by the U.S. and other countries, proved to be the exogenous shock that makes all forecasts so risky. We now project that the economy in 1990 will grow at approximately a 1% overall rate. While the preliminary data for third quarter 1990 showed 1.7% real GNP growth, we expect that period will be followed by at least two quarters of negative real GNP growth. Following the shorthand definition of a recession, then, these two consecutive declines in real GNP equal the first recession since the severe downturn in 1981-82.

We do not think that this 1990-91 recession will be as long or as severe as the previous one. Movement into the recession has been gradual, albeit from a position of sluggish growth. On the other hand, we expect the recovery, which should begin in the latter half of 1991, to also be relatively slow. We do not expect the strong quarterly growth rates of real GNP we saw when recovering from the 1981-82 recession. Unemployment in 1991 should peak at a 6.5% rate. The downturn we are currently experiencing—and expect to continue—is in one sense a "classic" oil shock. However, we believe that the severity of the recession will be attenuated by the fact that oil supplies are currently adequate, other countries plan to make up the production deficits caused by the interruption of supplies from Kuwait and Iraq, and our energy intensity (energy/GNP) has declined by about 25% since the first oil shock in 1973. In addition, stocks of crude oil and most petroleum products are at the same levels they were last year. Although there is great uncertainty in predicting oil prices, and our forecast is dependent on the particular path of oil prices in the next year, our basic forecast is that oil prices will peak at an average of $30-35 per barrel in fourth quarter 1990 and gradually decline through 1991 to end the year at approximately the $24 level. However, to the extent that the oil market is driven by psychological factors, such as apprehension about oil supplies, we expect oil prices to remain volatile until the situation in Iraq and Kuwait has been settled. The Gulf crisis will revive the energy and defense sectors of the U.S. economy, both of which have been in a "sectoral recession" for the last few years.

In addition to oil prices and supplies, another critical factor affecting the 1991 outlook will be the slow and gradual erosion of consumer assets that has occurred this year. While the impact of wealth effects on consumption and consumer confidence are difficult to estimate, and sometimes have been exaggerated, we think that the significant declines in equity prices in 1990 and the declines, or at best stagnation, in home values in much of the country in the last year or two are likely to spill over into reduced personal consumption expenditures. Counteracting that to some extent is the significant increase in social security payments due to the 5.4% inflation adjustment for 1991 and increased "safety net" spending as growth of the economy slows and unemployment increases.

One positive part of the outlook for 1991 is our trade balance. We expect to see continuing improvement in our current account balance, as in the last few years. The slowdown in the economy and the weakness in the value of the dollar are both likely to improve that figure, even in spite of the increases in the value of petroleum imports.

As the economy slows we expect a slow decline in interest rates. If inflationary expectations decrease, both short- and long-term rates will likely decline and the yield curve will become more steeply sloped.

We expect inflation to increase in 1991 if, as expected, the Federal Reserve follows an easier monetary policy strategy, import competition is reduced due to declines in the value of the dollar, and higher energy prices wind their way through the economy. We expect to see the CPI rise about 5.5-6.0% in 1991. The broader GNP deflator will rise about 1% less, partly because it includes the weak investment sector and higher imported oil prices are netted out.

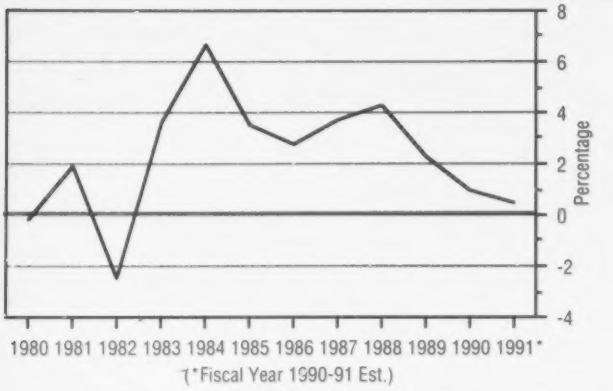
The budget compromise is expected to modestly reduce both consumer spending and federal government spending in the next year. However, because of the timing of some of the tax increases, most of the effects will not occur until the second half of the year. The federal budget deficit is expected, nonetheless, to be significantly higher in fiscal year 1991 compared to the recently ended fiscal year 1990.

Table 1
GNP and its Components

	1989	*% Change from Previous Year (est.)**	
	($ bil. 1982)	*1990*	*1991*
GNP	4118	1.0	0.5
Personal Consumption Expenditures	2657	0.9	0.4
Gross Private Domestic Investment	717	-2.2	-2.6
Nonresidential Fixed	506	1.0	0.0
Resident Fixed	187	-4.0	-7.0
Change in Business Inventories	24	10.0	5.0
Net Exports	-54	-38.0	-18.0
Exports	593	6.0	4.7
Imports	648	3.0	1.5
Federal Government Spending	335	1.5	1.0
State and Local Govt. Spending	463	3.0	1.0

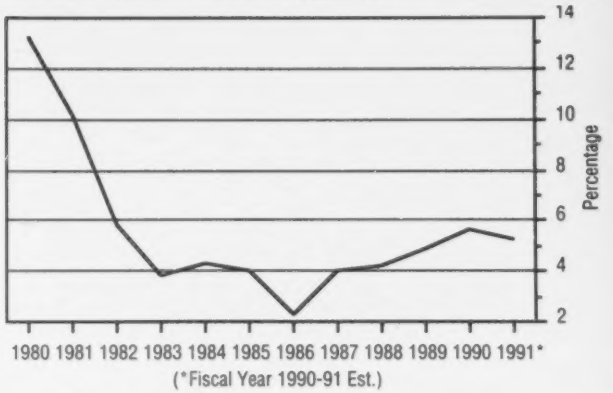
**Except for Change in Business Inventories and Net Exports, both of which are in billion of 1982 dollars.*

Figure 1
Annual Growth in GNP



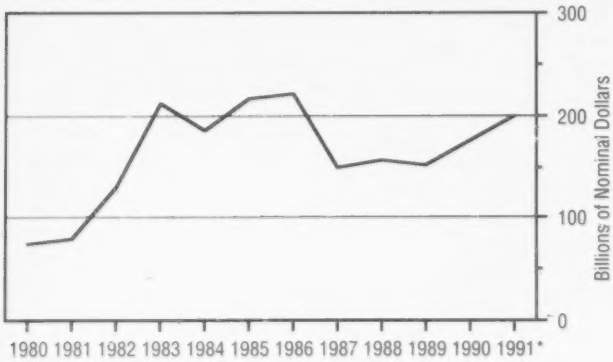
(*Fiscal Year 1990-91 Est.)

Figure 2
Annual Change in CPI



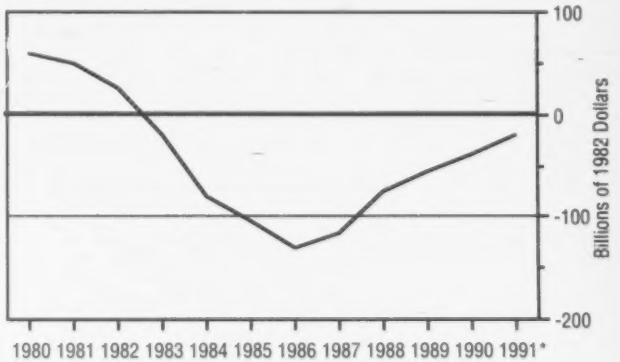
(*Fiscal Year 1990-91 Est.)

Figure 3
Federal Budget Deficit (includes on-budget and off-budget items)



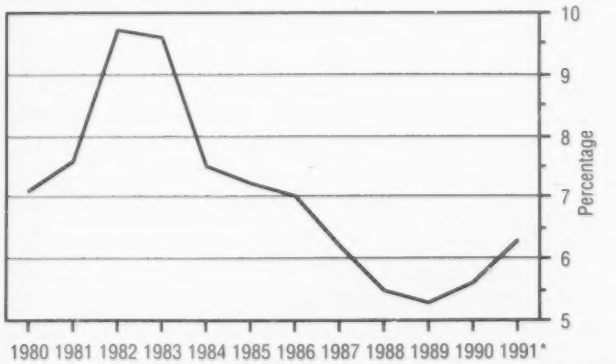
(*Fiscal Year 1990-1991 est.)

Figure 4
Real Net Exports



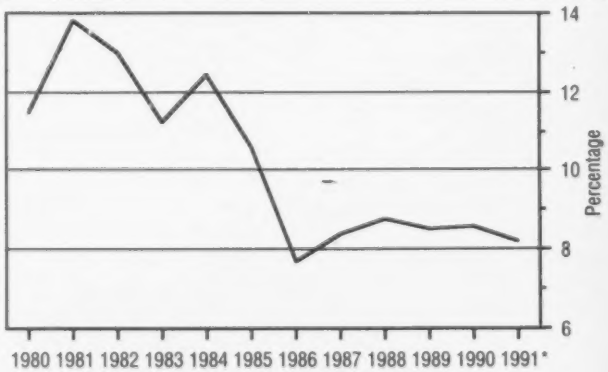
(*Fiscal Year 1990-1991 Est.)

Figure 5
Unemployment Rate, All Civilian Workers



(*Fiscal Year 1990-1991 Est.)

Figure 6
U.S. Government 10-Year Bond Yields



(*Fiscal Year 1990-91 Est.)

Consumer Spending and Income

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Before trying to determine the likely course of consumer spending over the coming year, it is instructive to look at the historical pattern of consumer spending and its major determinants. The fundamental determinant of consumer spending is income. If the ratio of consumer spending to disposable personal income remains constant, then only income changes matter for determining changes in consumer spending. Since all income is either spent or saved, if the ratio of consumption to income remains constant, so does the saving rate (the ratio of saving to income). In fact, the saving rate has fluctuated, but only within a narrow range. Between 1980 and 1989 this ratio reached a high of 7.5% in 1981 and a low of 2.9% in 1987. The ratio was 4.2 in 1989, the last year for which complete data are available. One minus this ratio is the ratio of consumption to income, so as the saving rate rises the ratio of consumption to income falls.

The saving rate tends to rise during a recession as consumers try to save more income in the face of uncertainty. Because the saving rate was lower at the end of the decade than at the beginning, real consumer spending increased more (32.8%) than real disposable income (29.6%) during the 1980s. Of the total increase in real consumer spending, 21.6% was the result of an increase in real per capita expenditures, while 11.2% was due to the increase in population. It really was the decade of the consumer.

Not only has the size of consumer expenditures increased over the last several decades in both aggregate and per capita terms; the composition of personal expenditures has also changed. **Table 1** shows several of these trends in the composition of consumer spending. The first trend to notice is that durable spending has remained fairly constant as a percentage of total spending, whereas spending for nondurable goods has fallen sharply and spending for services has increased.

Table 1
Percentage Composition of Consumer Expenditures Selected Items and Selected Years

Component	*Year*			
	1959	*1969*	*1979*	*1989*
Durable Goods	0.135	0.144	0.140	0.138
New Autos	0.025	0.033	0.029	0.031
Nondurable Goods	0.469	0.422	0.391	0.328
Food	0.257	0.223	0.192	0.174
Gasoline	0.050	0.052	0.048	0.036
Services	0.395	0.434	0.469	0.535
Health Care	0.065	0.078	0.096	0.108

The decline in the proportion of spending for nondurable goods is largely explained by declines in the share of spending for food and gasoline. This reflects the common tendency for the share of total spending on necessities to fall as income rises. Both food and gasoline are necessities, but the decline in the share of real consumption going to gasoline is also heavily influenced by the increased fuel efficiency of autos—itself largely a result of government-mandated mileage for new cars. For services, health care has been rising rapidly, both in the aggregate and in its share of budget, but it does not explain a large portion of the increase in the services share of total expenditures.

Given these trends, what is the outlook for consumer spending in late 1990 and through 1991? To predict consumer expenditures, we first need to predict real disposable income, and here the outlook is not bright. Disposable income growth has already begun to fall; real disposable personal income in the third quarter was 0.1% below its level six months earlier. Employment has been declining since July and will depress consumer income. Likewise, the large increases in consumer prices since August will also depress real income. A federal budget deficit agreement that includes increases in taxes will deliver a third blow. Our forecast of a mild recession in 1991 coupled with somewhat higher inflation will reinforce these downward forces. We expect real disposable personal income to decline through the end of 1990 and the early months of 1991, then by late spring it should reach its cyclical trough and start to grow again. We expect real disposable income for all of 1991 to be only about 0.4% above the level for 1990.

The saving rate fell in third quarter 1990, but it should begin to rise as consumers retrench. Later, as the economy begins to recover, the saving rate may decline. For all of 1991, we think the saving rate will be near its 1990 level. So real consumer expenditures should grow by only about 0.4% in 1991. The pattern of consumer spending will mirror that of real disposable income: declines in late 1990 and early 1991, followed by growth later in 1991 (see **Table 2**). The recovery in consumer spending will be slow though. Income growth will be held back by tax increases, and excise tax increases will keep prices high. Problems in the banking sector may make credit harder to obtain and thus limit growth in spending on big-ticket items.

The composition of consumer spending should also change. Increases in energy prices, both from

Table 2
Actual and Forecast Values, Real Personal Consumption Expenditures (billions of 1982 dollars)

Time Period	*PCE*	*Annualized Growth Rate (%)*
1990:3	2700	3.2
1990:4	2695	-0.7
1991:1	2690	-0.7
1991:2	2690	0.0
1991:3	2702	1.8
1991:4	2714	1.8

the Mideast turmoil and from the increased gasoline tax, should cause spending for gasoline and home heating to increase. Durable goods purchases should also be hurt, as will housing-related expenditures such as furniture and appliances. Increases in excise taxes should also depress purchases of alcohol and cigarettes.

Nonresidential Investment and Inventory Change

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Managers operating in the recessionary 1991 environment will find themselves with few good options when deciding on capital spending. The timing factor is the essence of capital expenditure decisions. Managers plan, decide, then order today for the equipment and structures they will put in place tomorrow. If the future looks dim or uncertain, it is easy to postpone these purchases. Of course, if present profits and liquidity reduce the pool of available funds, then even if expectations are modestly favorable, firms may be constrained in the capital purchases.

It is this situation that makes the investment picture so gloomy for 1991. Even before the invasion of Kuwait, the prospects of a slower economy had slowed capital spending and nipped new prospects or plans for future spending. After growing at an average annual rate of more than 5% per year from 1987-1989, real nonresidential fixed investment (NRI) will grow by only about 1% in 1990. As the reality of capital spending slowed this year, so did future plans (the Commerce Department's survey of future spending plans shows retrenchment). In real terms, spending on plants and equipment is expected to be flat for the second half of 1990. Just a year ago, firms were planning to increase spending by around 11%. We believe that a negative growth in real output bracketing fourth quarter 1990 and first quarter 1991 will not do much to improve managerial expectations and that NRI will average around $512 billion in 1991. This means zero real growth for that year.

A quick study of NRI in the four most recent recessions suggests that its share of GNP is roughly unchanged in the first four quarters after the start of the recession. The study also reveals that NRI's share of GNP typically falls until sometime after the recession ends. Thus it often takes some time for the full impact of the recession to affect capital spending (spending falls more slowly than GNP) and the effects last longer (spending grows more slowly than GNP). If it acts as a lagging indicator in 1991, then we should expect the worst behavior to be over by the third quarter and a full recovery in progress by the end of the year.

Since 1986 the structures component of NRI has been flat while equipment spending has gone from about 8% of GNP to almost 10%. In 1991 things should change. Firms have already been postponing the big projects in 1990. For example, construction spending in August 1990 was below the level of August 1989. Should interest rates slide in early 1991, we could see an early reversal of this very depressed sector. On the other hand, equipment spending may take longer to recover. Presently firms are strapped with rising interest payments, manufacturing activity is dormant, profits are in a vise between rising energy costs and slowing demand, and already low stock prices promise to fall even further.

There are a few bright spots in the picture for equipment, however. First, world growth promises that demand for capital exports will remain at least stable. For example, worldwide capital spending by chemical-related industries is expected to remain strong in 1991. And it is clear that the demands for capital investment in Germany, Central Europe, Asia, and Latin America will present opportunities for globally minded capital goods producers. As the dollar remains low or falls further, the competitiveness of these firms should increase if they do not raise domestic prices. Second, firms are generally in better shape now as compared with 1982 and are expected to be better able to compete. Third, most of the uncertainty surrounding the federal government's 1991 budget has been resolved. Although this package may affect bottom lines in multiple ways, it remains to be seen how higher tax rates on the wealthier taxpayers

will filter through to the saving and investment linkage. Some managers, expecting the worst from the package, may be more willing to commit resources now with the diminished uncertainty.

Another bright spot concerns the behavior of inventories in 1990. Presently, large structural imbalances have not surfaced; firms should have less need to finance excessive stocks. By historical standards, inventory-to-sales ratios are still benign. Although retail inventories have been growing lately, they are still reasonable and are largely confined to the auto sector. Firms have been anticipating a slowdown for some time. We predict that most of the unwanted buildup will occur toward the end of 1990; inventory accumulation in 1991 will be nil.

What happens if we increase the probability of war in the Middle East and keep the price of oil at or above $40 per barrel for a more extended period? Capital spending would contract much more than we forecast above. Under such a scenario, inflation would be higher and more variable. The recession would be larger, more pronounced, and more uncertain. More than likely, the ill effects would also extend to our major trading partners. All this would put a greater stress on the U.S. banking and financial system and make getting credit even more difficult than in the present environment. In such a case, it is conceivable that NRI could contract as much as 10%; inventories might swell by $30-50 billion.

Unemployment, Inflation, Interest Rates, and Fiscal and Monetary Policies

George W. Wilson

Distinguished Professor of Business Economics and Public Policy and Professor of Economics, and Director of the Transportation Research Center, Indiana University

The aggregate scenario for 1990 and calendar year 1991 depends critically upon the outcome of the Gulf crisis. If U.S. troops at present and projected levels in Saudi Arabia are still deemed necessary through most of 1991, the results will be oil prices in the $30-40 per barrel range, continuing anxiety and uncertainty in both the political and economic spheres, overall real GNP growth rate of less than 1% in both 1990 and 1991, and negative growth in fourth quarter 1990 and first quarter 1991—a technical recession. This is not to argue that the slow growth and likely recession are caused by the Gulf situation. The economy was starting to contract prior to August 2. Rather, it means that despite the economic stimulus of the additional U.S. military outlays, the oil price impact and increased fear and uncertainty will, along with the contractionary budget deficit cuts, slightly aggravate the underlying weakness of the economy and bring the long but faltering growth to a halt. I call this Scenario A.

Scenario B would have most U.S. forces out of Saudi Arabia for most of 1991 and probably by the end of the first quarter. The Gulf crisis will have ended and oil prices dropped to the $20-25 per barrel range over most of the year. Real GNP growth in 1991 will be above 3% over the 1990 level under the assumption of a rapid and peaceful resolution of the Middle East conflict. I do not consider a third scenario involving actual warfare, destruction of oil facilities in the Gulf, and hence vastly higher oil prices beyond $40 per barrel, even though such probabilities are perhaps as high as 10-15%. At this time I choose not to think the unthinkable, or even the least probable.

Unemployment

The civilian labor force should average 126,422,000 under Scenario A and 126,547,000 under Scenario B. The relatively larger civilian labor force in Scenario B results from both a smaller reserve call-up (in fact, a release of many reservists from active duty) and a sharply higher real GNP growth rate that offers more and better job prospects, thereby attracting more prospective workers into the labor force. Real annual output per worker rises to only $35,958 under Scenario A and $36,136 under Scenario B, implying an unemployment rate of more than 8% for A and less than 6% for B.

Inflation

Under Scenario A, oil prices will remain high, as noted above, but will not increase much more because the loss of Iraqi and Kuwaiti oil supplies will be compensated for by increased production elsewhere, along with obvious short-run conservation measures and stockpiles stimulated by the previous oil crises in 1973-74 (when oil prices quadrupled) and 1979 (when they tripled). Further inflationary pressures from this source are unlikely. On the contrary, oil prices can be expected to decline somewhat even with a Gulf stalemate throughout 1991, as the fear of future severe scarcity due to military destruction of Gulf oil facilities diminishes along with a slowdown in growth of oil demand due to sluggish output growth, conservation, and greater supply from other regions.

Inflationary pressures in the U.S. will be held back by the sluggish economy and low growth of ag-

gregate spending (further influenced negatively by the federal government's contractionary fiscal policies). The resultant excess labor and capital capacity represent powerful anti-inflationary pressures.

The only offsetting inflationary pressures likely are associated with the expected devaluation of the dollar and the resultant higher import prices, and the excise tax increases in the federal budget package. However, higher import prices will be less inflationary because import quantities will shrink from last year as a result of expected slower real GNP growth.

On balance, if oil prices are contained throughout 1991 at present levels or decline slightly, the overall inflation rates should decline from those anticipated during fourth quarter 1990 (5.6% for the GNP deflator and 6.1% for consumer prices) to a range of 3.5-4.5%.

Under Scenario B, with the economy operating closer to capacity levels, anticipated inflation would be expected to range somewhat higher, in the 4.5-5.5% range, but still down from the rates expected during fourth quarter 1990.

Interest Rates

Nominal rates should decrease with the rate of inflation but probably not as much, depending upon the actions of the Federal Reserve. These actions will be discussed in more detail below.

Fiscal Policy

Enough has already been said about the process whereby the budget was finally approved. Its impact upon the economy during calendar year 1991 needs to be assessed. Aside from the inconsistency of a contractionary fiscal policy amid a rapidly contracting economy, and the perpetuation of the myth that all federal government deficits represent national dissavings (which implies that all federal government expenditures are consumption whether or not they are used to finance sorely needed infrastructure, health and education facilities, or other capital-like assets), the present package widely billed as reducing the deficit by almost $40 billion below what it would have been in fiscal year 1991 is something of a mouse in a $5,500 billion economy. Even then it excludes estimates for U.S. military expenditures in the Persian Gulf that, with the additional 100,000 troops, probably will amount to close to $2 billion per month. The deficit reduction is much less than the estimates imply.

Furthermore, the attempt to simplify taxation in 1986, never too successful in the first place but at least a useful attempt, has been emasculated with the present budget as we march sharply back to pre-1986. Reintroducing tax rate disparities between capital gains and ordinary income provides incentives to convert as much of the latter to the former as possible, with all the associated gamesmanship (if not outright fraud) that the 1986 act sought to eliminate. Many new complications are added, so simplification has once again yielded to complexity and higher incomes for firms that prepare tax returns.

The net effects of the budget on the economy will be mildly contractionary and will somewhat worsen or prolong recession, but not significantly. It may make many people happier to believe that a "real" deficit reduction process has begun. It hasn't, but if the economy begins to grow more rapidly beginning, say, in 1992, this package extending over five years should lead to greater deficit reductions than would otherwise be expected. It is also nice to see equity and fairness at least partially reintroduced into U.S. tax policy through somewhat higher progressivity.

Monetary Policy

The Fed is likely to accept the budget package, at least in the sense of its being a *fait accompli* and probably as not unduly restrictive. It will therefore "support" it by easing monetary policy once the oil-induced inflation bubble has rippled through the system. If no further inflationary surprises arise, the Fed is likely to attempt to reduce interest rates and be generally more accommodating to ease the recessionary pains. Within the constraints of a legitimate concern for the quality of credit, the Fed should facilitate the processes noted under Scenario A. Even under Scenario B it will be accommodating, only less so because of the higher inflationary potential in Scenario B.

In either case, the U.S. economy is likely to come through 1991, mild recession and all, poised for more rapid growth in a more stable and promising political and economic world.

The International Economy

Jürgen von Hagen

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The world economy in 1990 is gradually slowing down from a period of rapid expansion in the late 1980s (see **Table 1**). Overall, there is no indication of a world recession, but the outlook for the OECD countries carries more uncertainty than in previous years. The Middle East crisis and the political changes in

Table 1
World Economic Data

	1988	*1989*	*1990*	*1991*
Real GNP Growth (% per year)				
OECD	4.4	3.6	2.5	2.1
U.S.	4.4	3.0	1.0	0.4
Japan	5.7	4.9	4.9	3.8
Germany	3.6	4.0	3.9	3.8
Inflation (GNP Deflator, % per year)				
OECD	3.5	4.3	4.6	4.5
U.S.	3.3	4.1	4.6	4.6
Japan	0.6	1.5	2.9	3.1
Germany	1.5	2.5	3.3	3.8
Unemployment (%)				
OECD	6.9	6.4	6.4	6.5
U.S.	5.5	5.3	5.4	5.6
Japan	2.5	2.3	2.3	2.4
Germany	9.2	8.6	7.0	6.5
Current Account ($ U.S. billion)				
U.S.	-126	-104	-100	-96
Japan	80	57	49	54
Germany	51	56	57	40

1990 figures are estimates; 1991 figures are predicted.

Eastern Europe have added further uncertainty to the world economy. By and large, these events are unlikely to change the general heading toward a recession, but they may worsen the picture somewhat over what we expected a few months ago.

Rising Interest Rates and the Changing Distribution of Economic Activity

Real GNP growth in the OECD slowed from an average of 3.6% in 1989 to an estimated 2.5% in 1990. With most OECD economies still operating at full capacity levels, this slowdown is actually a healthy one, relieving the inflationary pressures built up during the late 1980s when central banks frivolously—and unsuccessfully—attempted to reverse the long-run downward trend of the dollar in international currency markets. Tighter monetary policies are now in place in most OECD countries, and the days of celebrated international policy coordination are over; inflation is likely to peak in 1991 at an average of about 5%, up from an estimated 4.6% in 1990. The recent Middle East crisis adds new inflation potential; however, its severity is unclear as long as the duration of that crisis remains uncertain. Unemployment is expected to remain steady at around 6.6% in the OECD area, reflecting structural adjustment problems more than a cyclical downturn.

Several characteristics of the current situation are noticeable. First, there is a rare lack of international synchronization in the cyclical movements of the economies. Japan's and Germany's economies are expected to grow at a much faster pace than the U.S. economy, which is currently at the weak end of the OECD group. Little synchronization means that the world economy is less vulnerable to global shocks like the recent hike in oil prices, giving reason to expect that the stronger countries will help stimulate the weaker economies, thus relieving recession fears in the latter.

Second, interest rates have increased in the OECD, especially at the long end of the markets. Coming at a time when monetary policies remained fairly stable, this rise must be due to other factors. Among them are the perceived new investment opportunities and requirements in Eastern Europe following the political changes in this region, as well as the increased risk premium associated with the added political uncertainty. Both push up real interest rates. Increased inflation fears may have added to these factors, as some central banks have signalled their readiness to loosen monetary policy.

Third, international interest rate relations have turned around. For the first time in many years, German long-term rates exceed U.S. rates. Japanese rates, traditionally fairly low relative to those of other countries, now are close to U.S. rates. As a result, the dollar has depreciated some 18% against the yen and 11% against the German deutsche mark since May. In Japan, high rates are primarily a consequence of tight monetary policy, which since late spring has managed to turn around the weakening trend of the yen that lasted for much of 1989 and early 1990. After its recent entry into the European Monetary system, the British pound is expected to see a recovery as well. Interest rates in Britain should come down gradually as inflation expectations recede.

Finally, the large current account imbalances among the three major economies have started to improve and can be expected to improve further in 1991. The 1980s have taught us that current account imbalances are driven primarily by international interest rate differentials, not by exchange rate movements. The U.S. started to build up large current account deficits when the yield on dollar assets was higher than the yield on alternative assets elsewhere in the world. The current interest rate developments signal that the U.S. will not be able to attract as much foreign investment in 1991 as in previous years, with the consequence of further improvement in the current account.

High rates in Germany reflect primarily a buoyant investment demand. After the recent unification of the country, Germany will now have to attract foreign capital and direct more of its own savings into rebuilding what used to be the East German economy. This will add to the strengthening of the deutsche mark, and the other currencies in the European Mon-

etary System with it, and reduce Germany's current account surpluses. In addition, greater uncertainty about inflation and the fiscal policy consequences of unification have caused German long-term rates to rise. Earlier this year, conventional wisdom had it that German unification would send East Germans on a consumption binge, spending their newly acquired deutsche marks, refueling inflation in Germany. The fact that this did not happen can be attributed to two reasons. One, unification has left many East Germans with unknown economic uncertainty about their jobs. Second, the socialist economy not only restricted consumption, it also left no choice for saving and investment. East Germans are now discovering the attractiveness of modern financial instruments. The result has been sustained savings rather than excessive spending.

A Third Oil Shock?

The crisis in the Middle East has nurtured fears of a third oil shock, a repetition of the worldwide stagflations of the 1970s. There are good reasons to believe that the current crisis will not have such severe consequences. The current oil price hike hit at a moment when the international economy showed healthy real growth and declining inflation. In contrast, the two hikes of the 1970s hit a recessionary world economy with already accelerating inflation. Furthermore, most industrial nations have, through tax policies and conservation measures, reduced their dependency on oil imports. With the exception of Spain, all OECD countries use less energy per dollar of GNP produced than in 1973. Energy consumption per dollar of GNP is down by one-fourth in the U.S. and France, by one-third in Germany and Italy, and by about 40% in Japan and Britain. All countries have reduced the share of oil in total energy consumption since the 1970s. As a result, the supply-side effects of rising oil prices—rising costs and lower demand for labor—are less powerful today. In a rough estimate, an average oil price of $35 per barrel over the next two years would cost the G7 countries approximately half a percentage point of real GNP growth and add an extra inflation of 1%, compared with a price of $22. In the international comparison, the U.S. appears to be more vulnerable to oil price increases than Europe and Japan.

Still, higher oil prices cause a redistribution of world income from oil consumers to oil producers. Today's international financial system is better prepared today to recycle higher oil revenues back to the industrial economies, which will help keep world demand at a high level despite higher oil prices. But domestic consumers and households will feel the impact as disposable income will grow less. Among the OECD countries, those with strong export ties to the oil producers are likely to be hurt the least, as they will recover a larger share of the extra oil revenues. The distributive impacts will hurt the oil-dependent developing countries most of all, and in this way add additional uncertainty and strain to the LDC debt problem. Another group of countries most adversely affected by higher oil prices are the East European nations. For decades, these economies could rely on highly subsidized oil imports from the Soviet Union, which disconnected them completely from worldwide changes in energy prices. The result is an extremely low degree of energy efficiency and a high degree of vulnerability as Soviet subsidies are phased out. If oil prices are to remain high for some time, the economic and political reforms of these countries will be in severe jeopardy. Realistically, the West will come to the relief of these countries to safeguard the political changes toward democracy. But such politically motivated action would increase the burden borne by the industrial economies.

In sum, if it is to last, the current oil price hike will likely contribute to the changing direction of world economic activity and specifically to the gap in economic performance between the U.S., Western Europe, and Japan.

The Outlook for 1991

The forecast for the U.S. international sector is for a weaker dollar and an improved trade and current account balance reflecting the reduced inflow of foreign capital (see **Table 2**). The weaker dollar will stimulate export growth and hold down imports. The reduction in import growth would be larger, however, with reduced prices of oil imports.

Table 2
U.S. International Outlook 1991

Current Account (billion U.S. dollars)	-96
Net Exports (billion U.S. dollars)	-21
Yen/US$	135
Deutsche mark/US$	1.49
Real Export Growth (percent)	4.7
Real Import Growth (percent)	1.5

Housing

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There is a great deal of uncertainty as to the outlook for housing. Sales of new homes fell 2.3% in July for a seasonally adjusted annual rate of 548,000 units. Existing home sales dropped 8% in September (from August) to the slowest rate since January 1988. Existing home sales are currently running at a seasonally adjusted pace of 3.22 million units. The number of unsold homes on the market has been rising, and there is 9.4 months' worth of supply on the market.

The median home price has been dropping nationally. It was $94,300 in September, and in Indiana is currently $60,000. Median home prices in Indiana and the rest of the Midwest have been steady relative to the rest of the country. Although many areas of the nation are now experiencing a decrease in home prices (even California), Indiana has held steady so far. If this trend continues, Indiana may not experience as much of a drop in home prices as the rest of the nation if we move further into a recession.

Housing starts in July were at a seasonally adjusted annual rate of 1.148 million units, the lowest level since September 1982. Housing starts peaked at 1.972 million units in January 1972 and reached a low of 837,000 units in November 1981. Housing starts in 1989 were 1.38 million. The National Association of Homebuilders has forecast that housing starts for 1990 will be about 1.2 million (900,000 single-family units and 300,000 multifamily units). A continuation of the Persian Gulf crisis and an upturn in oil prices coupled with slower economic growth would result in low housing starts in the second half of 1990 and early 1991. Total housing starts during 1991 are likely to reach about 1.1 million units. If the economy moves further toward a recession, it is quite possible that housing starts will fall below 1 million units during 1991.

Rates for mortgages have remained fairly steady in recent months, although there has been a widening of the spread between fixed-rate mortgages and adjustable-rate mortgages (currently at 125 basis points with fixed-rate mortgages at 10.5% and adjustable-rate mortgages at 9.25%). This reflects the uncertainty as to the direction of mortgage interest rates over the next year.

Corporate Earnings and Capital Markets

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The forecast for corporate earnings at the end of 1990 requires more specifics than generalities. To forecast earnings in aggregate is to miss important industry and geographic influences. The U.S. economy is now sufficiently diversified and integrated with the world economy to make the earnings of U.S. companies quite dependent on exchange rates. In many industries the value of the dollar will be a more important determinant of earnings than the status of the U.S. economy. The job of the forecaster, therefore, is to choose those industries and sectors where the confluence of world events seems to help the prospects for growth and earnings.

Regardless of the duration of the Persian Gulf crisis, corporate earnings are vulnerable to both the uncertainty involved and the rate at which producers incorporate these higher energy costs into their decisions. With the uncertainty surrounding current energy prices and the weak demand in the economy, producers are likely to be less aggressive in incorporating higher energy costs into prices so consumers will not postpone purchase decisions. The immediate consequence for 1991 is a likely squeeze on corporate earnings of manufacturers as costs rise more rapidly than prices. This pattern was common during the inflationary periods of the 1970s.

The weakening of the U.S. dollar is similarly an important factor in projecting corporate earnings. Many U.S. multinationals are now earning more than half their profits outside the United States. When these profits are converted back to a dollar basis, the companies involved will show strong earnings growth. Similarly, domestic industries, particularly capital goods industries, that export a significant portion of their output will be helped by a weaker dollar. At the other extreme, companies that have shifted production operations overseas or have chosen to buy components produced elsewhere will be hurt by the deteriorating exchange rate of the dollar.

While the collapse of the savings and loan industry is clearly unprecedented, the financial system is further weakened by problems in the commercial banking industry and excessive debt positions in many large companies. Although these factors are not

in themselves recessionary, they point to general weakness on the financial side. Credit standards are quite high; the banks and financial markets do not appear poised to assist businesses under pressure from slippage in demand. Companies with high debt positions are excessively focused on managing for cash flow to meet their debt service. They are very vulnerable not only to rapid earnings declines but also to cash shortfalls if demand slackens in their industry.

In general, we expect corporate earnings to be weak among the Standard & Poors 400 industrials. Areas of relative strength will be those corporations whose revenues are export driven and those companies that are relatively liquid compared with their competitors. In November intermediate and long-term interest rates finally began to decline. Whether this decline will continue is problematic. In addition to the concerns in the Gulf, high interest rates overseas prevent the Federal Reserve from moving to bring long-term rates down significantly. Any such move would undoubtedly cause a flight from the dollar, putting it into free-fall. The aforementioned high overseas rates are a direct result of political events in Central and Eastern Europe over the last few years. All of Europe from Berlin to the Urals is short of capital. To attract capital into Germany for the rebuilding of the eastern portion of the new, united Deutschland, German interest rates must remain high. This will tend to prevent the decline of interest rates worldwide to any greater extent in the near future.

As for short-term interest rates, we may see a further drop of about 10-30 basis points in the first part of 1991 from the current 7.3% yield on Treasury bills and an additional 15-35 basis point drop toward the end of 1991.

The equity markets could have a difficult time in the next 12 months. There is some evidence that earnings expectations for individual companies are still too high relative to the weakness of the economy. This should result in a continuing process of downward revisions on earnings expectations. If the past is any guide, an environment that is characterized by downward revisions of expectations in corporate earnings has been one in which the stock market tends to struggle.

Dividend growth during the last six years or so has outstripped earnings growth. Without a significant increase in earnings, which we do not expect, dividend growth during 1991 should have difficulty matching the inflation rate (5-6%). Put another way, there should be a decline in the real value of the dividends paid by American corporations. As shown in the **Table**, this will mark the second year in a row that the real dividend growth has been less than the prior year. Over the past 40 years, when real dividend growth has been less than in the prior year, the total return on the market has averaged approximately 4% per annum. In the years where the real dividend growth has been greater than the prior year, the total return on the market has averaged 18%. There is evidence that this negative momentum in real dividend growth may by reversed in 1992, but 1991's dividend momentum will not be a source of strength for the market—at least for the first part of the year.

One of the real sources of strength in the stock market over the past six years has been the demand for equities exhibited by the corporate sector. This demand has taken the form of leveraged buyouts and stock repurchases; it ran at an annual rate of $186 billion during first quarter 1989. There is evidence that this demand has diminished substantially. It ran at the level of approximately $94 billion in first quarter 1990, and at a level of $66 billion in the second quarter. There is no reason to believe that this demand will return to its prior strength in the foreseeable future. This, coupled with what appears to be net selling of U.S. equities by the foreign sector, means that any support for the stock market must be found in the domestic institutional and private sources.

To put the equity markets in their final perspective, it is worthwhile to look at the valuation models that Wall Street firms use to value the stock market. Most of these valuation models at this writing (with the S&P 500 in the 315-320 range and the Dow Jones 30 Industrials at approximately 2550) are saying that the market is still 5-15% overvalued. Bear markets have rarely ended with the market overvalued relative to these models; they usually end with the market 10-30% undervalued with respect to these models. If the verdict is that we are in a bear market, then either the market will need to drop another 15-25%, or the seven-year government bond rate will need to drop 60-80 basis points, or some combination of the two, before the market will turn around.

This pessimistic scenario for the stock market is based on the following factors: there will be a decrease in corporate demand for equities; current valu-

Table
S&P 500 Real Dividend Growth

Year	*Growth (%)*
1985	1.1
1986	3.7
1987	2.0
1988	6.0
1989	9.0
1990	3.0
1991	-1.0

1990 and 1991 figures are estimates.
Source: Goldman, Sachs & Co.

ation models still indicate that the market is 10-15% overvalued; real dividend growth will be negative and the momentum of real dividend growth is negative; long-term rates will be hard to reduce; and the environment will be one of downward earnings revisions in 1991.

What should investors do? If we divide investors into three groups—short-term (those with investment horizons of less than five years), intermediate (those with investment horizons of five to ten years), and long-term (those with investment horizons of longer than ten years)—the advice comes down to something like this: Short-term investors would be wise to maintain their speculative balances in short-term money market instruments while putting some of their money into 10- to 20-year bonds, using the remainder to pick up selected equities at distress bargain prices. These selected equities will most likely be found among the very strong companies in weak industries, such as casualty insurance, life insurance, money center banks, and the financial services industry. Intermediate investors should not abandon the stock market totally, but should keep about one-third of their money in equities, one-third in intermediate to long-term bonds, and one-third in money market instruments. Since 1926 there have been only a few months where equities did not beat all other alternatives over a 20-year horizon.

The quicker and further the intermediate and long-term interest rates decline, the less vulnerable is the market. If these interest rates start to rapidly decline now, then we may very well have seen the lows for this market. But if the substantial decline is postponed beyond first quarter 1991, then we would expect that we have not seen the lows from the market, and that the final lows may very well be in the 2200 range or below.

Morton J. Marcus

Director, Indiana Business Research Center, Indiana University School of Business

Indiana led the nation into the current recession. The Hoosier state entered a downturn more than a year before the rest of the country. Toward an understanding of the dynamics of recessions in Indiana, this article traces the path of this downturn and those of its predecessors.

In October 1990 total establishment employment reported by the Indiana Department of Employment and Training Services stood at an all-time record level of 2,550,600. How strange, then, for us to be talking about a recession. But the facts are that other indicators showed Indiana's economy had been faltering for more than a year, and the peak employment numbers of October would be misleading if taken alone.

Establishment employment data, shown in **Table 1**, are not seasonally adjusted, but the rise, year-over-year, is not illusory. Employment in October 1990 stood 45,800 above a year earlier. But this was the latest in a succession of decreasing gains. Although growth has been continuing in Indiana for the past three years, it has been at a decreasing rate (**Figure 1**). Perhaps it does not mean we are coming to a full stop at this economic intersection, but we are slowing to one of those sliding stops so familiar at busy Hoosier crossroads.

Manufacturing employment (**Figure 2**) does not offer the clear rising parallel lines of all establishments. Whereas 1988 was a year of rising manufacturing employment, 1989 saw more declines than gains. After a peak of 648,300 employed in November 1988, manufacturing lost 12,900 by the next November. Much of 1990 was spent recouping that loss, and the gap was narrowing until employment flattened in the summer months and began to fall once the higher prices of petroleum were felt after the invasion of Kuwait. By October 1990, Indiana's manufacturing employment was only 800 below 1989, but still 10,800 off the 1988 pace.

Within manufacturing the hit was taken by the workers in durable goods production, led by workers manufacturing transportation equipment. Durable goods accounted for nearly 72% of all manufacturing employment in November 1988, with about one-fifth of that total in the production of transportation equipment. In May 1989, employment in transportation equipment had fallen below its level of a year earlier (see **Figure 3**). By August all durable goods employment was below the level of the same month in the previous year. From that date forward, employment continued to lag but was tending to make gains. Transportation equipment actually moved slightly ahead in September

Table 1
Employment Gains, October to October

	Number	*Percent*
1985-1986	57,700	2.6
1986-1987	96,700	4.3
1987-1988	84,300	3.6
1988-1989	60,200	2.5
1989-1990	45,800	1.8

Figure 1
Indiana Establishment Employment
(Monthly data, not seasonally adjusted)

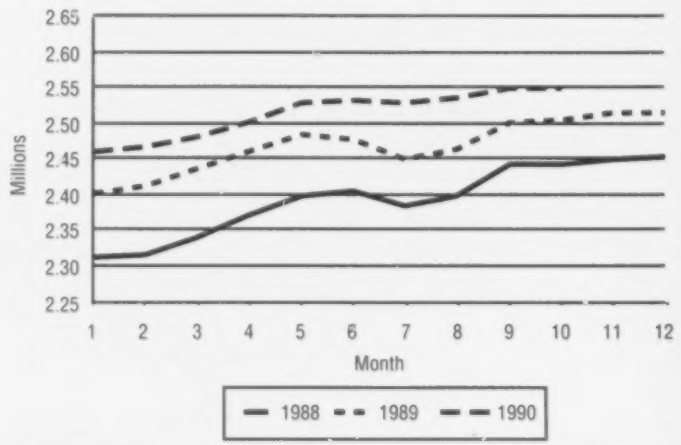
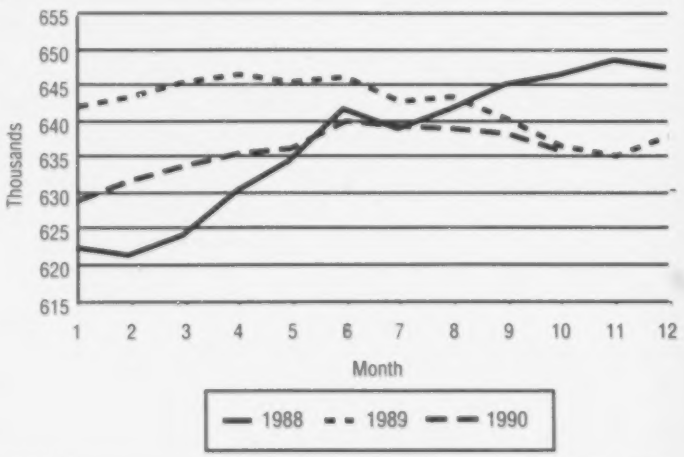


Figure 2
Indiana Manufacturing Employment
(Monthly data, not seasonally adjusted)



1990, perhaps foretelling a recovery for the durable goods sector.

The distressing aspect of these manufacturing employment declines was accentuated by the ongoing toll taken by inflation. The average earnings of Indiana manufacturing workers advanced from $10.62 per hour in January 1985 to $12.23 by October 1990. This was a nominal increase of 15.2%. When inflation is brought into the picture, as in **Figure 4**, workers are seen to have had a real decline of 9.3%. Declines in the real wages of manufacturing workers affect all Indiana professionals, shopkeepers, and public employees. This decrease in buying power reduces the ability of Hoosiers to buy goods and services and to support government services.

Retail sales (adjusted for inflation) began to fall behind year-earlier levels in October 1989. **Figure 5** shows that 1988 and 1989 were almost identical years in real terms. Complete stagnation for Indiana retail sales was evident in March, April, and May of 1990. The narrowing of the gap between 1990 and the two preceding years that occurred in the summer of

Figure 3
Indiana Manufacturing Employment Gains
(Change from same month one year earlier)

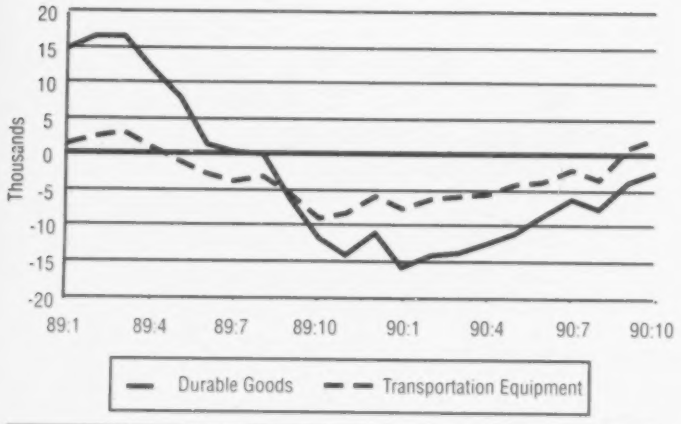


Figure 4
Average Hourly Earnings
Indiana Manufacturing Workers (monthly data)

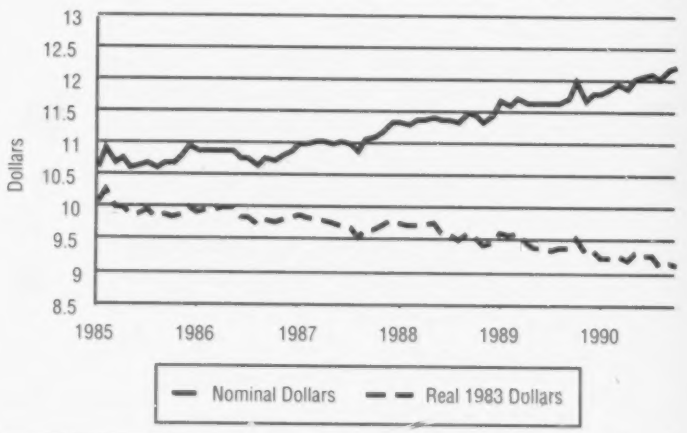


Figure 5
Real Retail Trade—Indiana
(Monthly data, not seasonally adjusted)

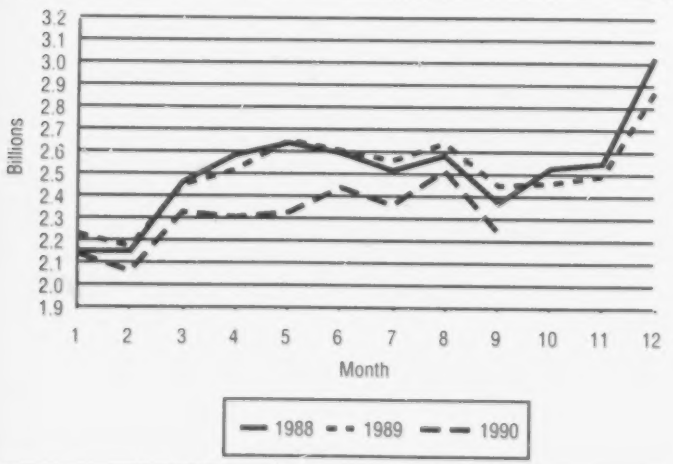


Figure 6
Real Retail Trade—Indiana
(Monthly data, percent change from same month one year ago)

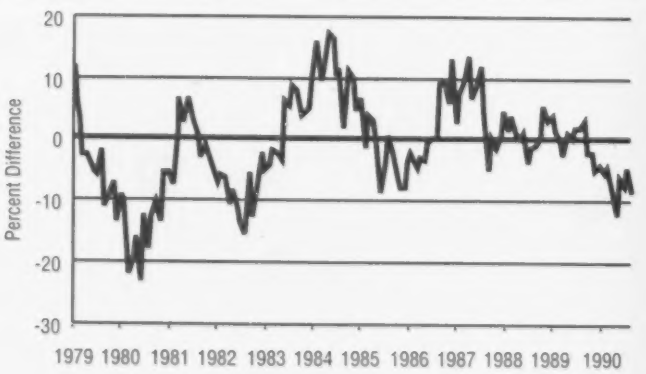


Figure 7
Real Retail Trade—Percent Change
(By region, first 9 months of 1990 vs. 1989)

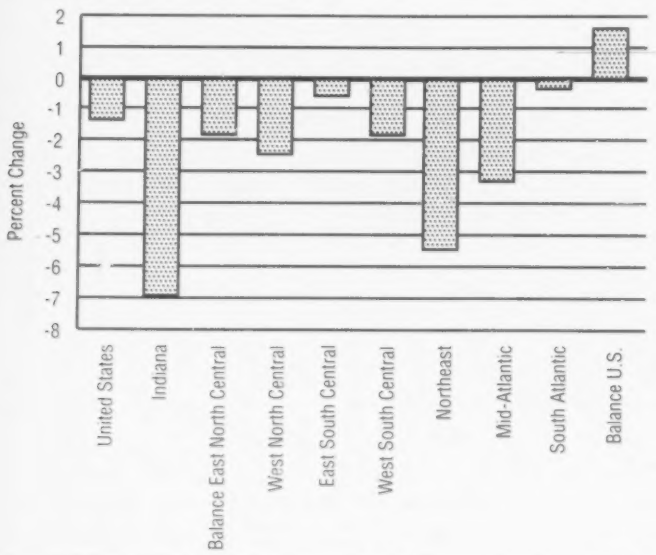


Figure 8
Manufacturing as a Percent of Non-farm Earnings
(Quarterly data, based on seasonally adjusted earnings)

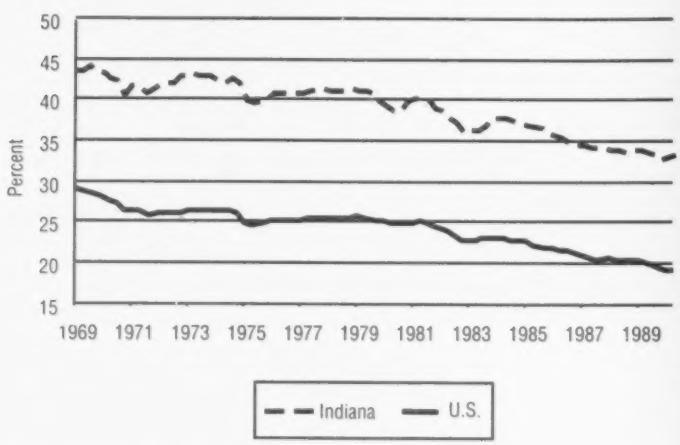


Figure 9
Real Non-farm Earnings—Indiana
(Quarterly data, seasonally adjusted, annual rate)

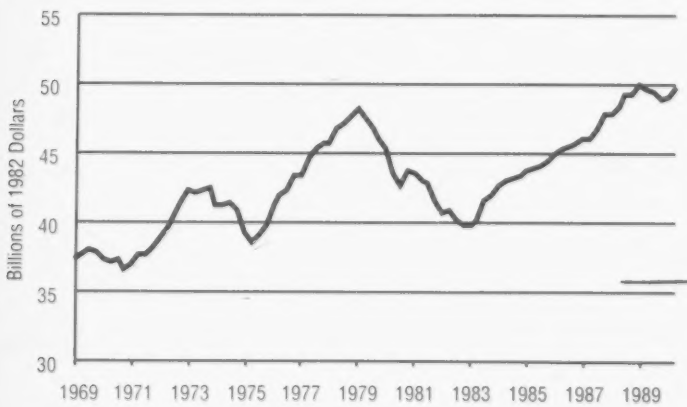
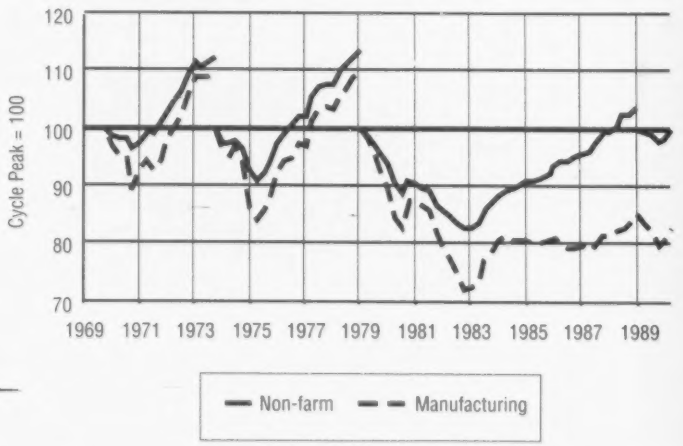


Figure 10
Manufacturing and Non-farm Earnings—Indiana
(By economic cycles, 1969-1990)



1990 was caused by the decline of the earlier years rather than significant improvement in 1990. The advance of September was entirely lost in October after the Persian Gulf crisis took effect.

The differences in real monthly retail sales from year-earlier levels tell the story of the economy. In **Figure 6** these changes are shown back to 1979. The recession that began that year led to a decline in Indiana's real retail sales that hit bottom in June 1981. For 23 consecutive months, sales were below the same month of a year earlier after adjustment for inflation. There was a short (six-month) improvement before sales once again fell short of year-earlier levels for another 21 months. Hence, for 44 of 50 months, 1979 to 1983, real retail sales in Indiana lagged on a year-to-year comparison basis. As Figure 6 shows, we started another such run in October 1989, a year be-

fore most Hoosiers could name the leader of Iraq.

Every newscast has carried the story of how poorly the New England economy fared in 1990. The major networks did not interview Hoosier retailers. For the first nine months of 1990, real retail sales in the nation were down 1.4% from the same period for 1989; New England was lagging by 5.5%. Indiana can take pride in its leadership role: we were off by 7% (see **Figure 7**).

The other East North Central states (Illinois, Michigan, Ohio, and Wisconsin) had a decline of just 1.8%. The Midwestern states on the other side of the Mississippi River (the West North Central region) were down 2.5%. The South Atlantic region and the two South Central regions were each down less than 2%. New York, New Jersey, and Pennsylvania (the Mid-Atlantic region) fell by more than 3%. The only places where gains were made were in the balance of the U.S. (the Mountain and Pacific regions). Hence, it is no surprise that our Revenue Department reports shortfalls in sales tax revenues and we find retailers in Indiana suffering reduced profit margins. These in turn are part of the decreased corporate income tax receipts of the state.

Problems in manufacturing are at the heart of our state's economic difficulties. Although this sector does not represent as great a portion of non-farm earnings as it did 20 years ago, it still dominates Indiana's economy. As late as second quarter 1973, manufacturing accounted for 42.7% of non-farm earnings in Indiana. By second quarter 1990, this share had fallen to 33%. Nationally, the decline is similar (see **Figure 8**). It is this continued reliance on highly cyclical manufacturing employment and earnings that gives rise to Indiana's somewhat volatile economy. (We cannot conclude, however, that we would do better with less manufacturing . . . but that is a story for another time.)

Figure 9 shows that since 1969, Indiana has had four episodes of declining real non-farm earnings. (For clarification: earnings are the sum of wages and salaries, proprietors' income, and other labor income, including health, pension, and other employee benefits.) From the national perspective, the recession Indiana experienced in 1969-70 was a non-event. The recession of 1989 in Indiana was not recorded nationally either.

Manufacturing has taken even stronger declines during these downturns than the state's economy in general. This is seen in **Figure 10**, where each Indiana business cycle is shown in relation to the previous peak. The recession of 1969-70 resulted in a 4% decline in non-farm earnings from the peak in third quarter 1969. In a five-quarter period, manufacturing earnings dropped 11.2%. The recession in non-farm earnings (peak to trough) was six quarters in duration, followed by a three-quarter recovery (trough to the same level as the previous peak) and then an eight-quarter expansion (level to the next peak). **Table 2** traces each of the recessions depicted in Figure 10.

In each case, manufacturing went down further than did non-farm earnings in general, and the recovery for manufacturing took at least two quarters longer than the general recovery. In the expansion of the business cycle, the recovery of manufacturing was less than the general recovery, resulting in a decline in the share of total earnings held by manufacturing shown in Figure 8.

It should be noted that real earnings from manufacturing in Indiana had not regained the pre-recession peak of 1979 when the new recession of 1989 hit. Since the decline of the last three quarters in 1989, there has been some improvement, but we consider this a temporary remission. A two-step decline is the clear pattern established in the three preceding recessions shown in Figure 10. The third and fourth quarters of 1990 should give us the second step down.

The question is, how far down will the Indiana economy go in this recession? The mild nature of the forecast for the national economy suggests that the recession of 1969-70 might be a good model. A recovery in the second or third quarter of 1991 would make this a downturn of eight or nine quarters. If that model is followed, the decline already experienced

Table 2
Indiana's Recessions

Cycle (year and quarter)	*Peak to trough*	*Trough to level*	*Level to peak*
1969:3 to 1973:4			
Percent change in			
Non-farm earnings	4.0 (6 qtrs)	3 qtrs	11.9 (8 qtrs)
Manufacturing earnings	11.2 (5 qtrs)	6 qtrs	9.4 (6 qtrs)
1973:4 to 1979:1			
Percent change in			
Non-farm earnings	9.3 (6 qtrs)	6 qtrs	13.4 (9 qtrs)
Manufacturing earnings	16.4 (6 qtrs)	8 qtrs	9.6 (7 qtrs)
1979:1 to 1989:1			
Percent change in			
Non-farm earnings	17.6 (15 qtrs)	22 qtrs	3.7 (3 qtrs)
Manufacturing earnings	28.2 (15 qtrs)	30 qtrs*	
1989:1 to 1990:2*			
Percent change in			
Non-farm earnings	2.4 (3 qtrs)		
Manufacturing earnings	6.6 (3 qtrs)		

** still in progress*

would account for to one-half of total expected fall. This is the optimistic scenario. A less rosy view would set the 1974-75 decline as a model, in which case the recession thus far is but one-third of the full decline to be expected.

The critical question for Indiana is the nature of the economic recovery. Many national analysts anticipate a return to the sluggish performance of the late 1980s. This would suggest continued hardship for Indiana and its manufacturing-based economy with slow growth and continuing fiscal problems for state and local governments into 1992.

The following articles on individual areas indicate the diverse expectations prevalent around the state.

Indianapolis

Robert Kirk

Professor of Economics, Indiana University-Purdue University at Indianapolis; data assistance from the Statistical Services Divisions of the Indiana Department of Employment and Training Services

The Indianapolis economy will have a weak first quarter, followed by slow growth as 1991 progresses. The annual employment growth rate for 1991 will be 1%, compared with a 4% annual average for the rapid growth period, 1985-89. Similarly, the growth rate in personal income, after adjusting for expected inflation, will be 0-1%. Nonmanufacturing employment will increase, while manufacturing employment will decline slightly. The net effect (because manufacturing employment has declined to 16% of total employment) is that total employment will increase.

What kind of recession—and, more important, what kind of recovery—will Indianapolis have? Historically, the diversification of the Indianapolis economy has meant less volatility than in the rest of the state. Durable goods employment, such as in auto and truck parts, has been a source of volatility, but it makes up a smaller proportion of total Indianapolis employment in 1991 than in 1979. The relatively large federal, state, and local government sector was countercyclical in the recession of 1974-75 but procyclical (declined with the rest of the economy) in the 1980-82 recession. The government revenue forecasts, as well as the public statements of fiscal conservatism by government officials, indicate that the government sector will be a stabilizing factor in 1991.

A reason for predicting slow recovery is that the financial position of some firms and households is fragile. Lenders are cautious. When real estate markets are soft, there tends to be a gap between historical cost and market value as reported by financial institutions. Recession could raise the national bank failure rate at a time when the ratio of the Bank Insurance Fund's balance to insured deposits has fallen to a very low level. Corporations became highly leveraged in the 1980s and in a recession may have difficulty making interest payments on their debt. In recent years, households obtained loans of longer maturity to finance their cars. Now when households consider buying a new car, in some cases they find they owe more on the old car than the car's market value. These financial constraints could increase the severity of the recession or postpone the recovery.

Comparative Economic Performance

Comparative metropolitan economic performance is provided in the **Table**, which shows employment change (January 1983=100) during the 1983-90 expansion, as well as the peak in manufacturing employment for Indianapolis and selected metropolitan areas in the region. With the exception of Cincinnati, the recovery in manufacturing employment was of fairly short duration. Although employment growth has been weak, manufacturing output growth has been stronger because of the growth in labor productivity. The strength of Indianapolis's total employment growth has been in the nonmanufacturing sector, as a couple of major plant shutdowns dampened the manufacturing sector's recovery. The major contributors to the employment growth were construction, retail trade, and services.

Table
Per Capita Personal Income for Selected Metropolitan Areas, 1983-88

Metropolitan Area	% of National Average 1983	% of National Average 1988	Rank 1983	Rank 1988	% Change 1983-88
United States	100.0	100.0	---	---	36.3
INDIANAPOLIS	**100.0**	**103.0**	**106**	**75**	**40.4**
Chicago	115.9	115.6	34	34	35.9
Cincinnati	100.8	100.9	102	92	36.4
Cleveland	111.0	110.2	44	51	35.3
Columbus	97.5	98.6	137	110	37.7
Dayton	97.3	97.7	138	114	36.9
Detroit	106.8	112.5	65	45	43.5
Kansas City	106.9	103.6	64	70	32.1
Louisville	95.5	95.1	155	129	35.7
Memphis	90.6	93.7	192	137	40.9
Nashville	93.6	98.6	170	109	43.6
St. Louis	108.7	108.0	53	57	35.4

Source: U.S. Department of Commerce

How will these industries be affected in a slow-growth period? Construction is a mixed picture. On the positive side, major construction projects are in progress or are expected to begin in 1991. These include projects by Eli Lilly, IUPUI, Farm Bureau Insurance, the State of Indiana, and Veterans Hospitals. However, when state office workers move into their new building, there will be more vacancies in an already soft office market. It is hoped that the Circle Centre Mall will begin to take shape. When the future of this project becomes clearer, uncertainty will be reduced and construction downtown stimulated, although it will be a few more years before the returns on the investment of both the private and government sectors will be realized. In 1991, downtown convention-serving businesses can expect a 5% increase in room night bookings from conventions and an increase in multiple facilities conventions (those using more than 1,000 rooms) from 20 to 28.

What about residential housing? Typically, housing leads the economy into recession because of upward pressure on interest rates immediately before the peak in the business cycle; it likewise leads the economy out of a recession because of reduced demand for loanable funds and therefore reduced interest rates. However, the economy entered the recession with a large federal budget deficit, and that deficit will be even larger in 1991. Because of the need to attract buyers of U.S. government securities, interest rates may not fall as much as they otherwise would. Therefore, the decline in rates may be dampened compared with "typical" recessions. If this scenario occurs, combined with limited employment and income growth, the consequence would be a moderate housing recovery.

Although new retailers have entered the marketplace, others have exited. Retail employment is not expected to be a source of expansion, as it has been, because of forecasted sluggish income and employment growth. If inflation declines more than expected, then real disposable income growth will increase more than expected and stimulate retail activity.

Services

The strong performance of Indianapolis indicated in Table 1 was due primarily to services. Services are perceived as being relatively stable. However, as manufacturing was forced to make changes to increase labor productivity during the early 1980s, nonmanufacturing may face similar adjustments now. For example, there have been white-collar layoffs in financial services across the country.

In Indianapolis, the two primary contributors to services employment growth have been health services and business services. With its tertiary care centers, Indianapolis's health care delivery system serves not only local residents but also those from outside the city. Employment in health services continues to increase, although cost-containment efforts will slow the rate of increase.

Business services consist of two types of activities, which may be affected differently in recession. First, there are business support services, such as credit reporting and data processing. In recession, with business failures, demand for credit reporting may increase. Second, there are infrastructure-type business services, such as temporary help and building maintenance services. There has been evidence both nationally and locally of a softening in demand for temporary help workers. This industry has been one of the most rapidly growing ones in the 1980s as firms were attracted to the flexibility, as well as lower costs, provided by temporary help. However, it is this flexibility that in a sluggish period results in reduced demand for temporary help. In the past a leading economic indicator has been average hours worked in durable goods manufacturing, because adjustments to unanticipated inventory showed up first in a reduction in hours worked. Change in demand for temporary help may become another leading economic indicator that signals change in market conditions in both the manufacturing and nonmanufacturing sectors. If temporary workers are the first to be laid off as consumer demand declines, they should be the first to be rehired in recovery as firms test the strength of the marketplace.

Government

Government—at federal, state, and local levels—is a major employer in Indianapolis and usually provides stability in recessionary periods. The rainy day fund was established at the state level to stabilize state employment in a serious recession. What about local government? To appreciate the changes in the revenue structure of the City of Indianapolis during the 1980s, it should be noted that intergovernmental grants from the federal government to local and state governments peaked in 1978. Then, as federal government deficits grew in the 1980s, federal revenue sharing with states and local governments was eliminated. Local officials had to cut expenditures or raise revenue to make up for lost federal dollars. State government gave local government the power to impose a county option income tax in 1984. Indianapolis has used the county option income tax revenue for pensions for police and fire fighters. In addition, environmental services, such as tertiary waste water treatment, have resulted in fees for services to pay off bonds issued to finance the required infrastructure. Thus, fees (17% of total 1989 revenue), the income tax (8%), and the property tax (35%) have become more important in the City's revenue structure.

Use of the income tax exposes government revenue to some fluctuation arising from the business cycle. To encourage private sector investment, tax incentives—such as property tax abatement and infrastructure improvements financed by 30-year tax increment bonds—have been used. On the expenditure side, police and fire protection, waste handling, and debt service are the three largest components, representing two-thirds of total expenditures. The City of Indianapolis is examining ways to improve the efficiency of its public service delivery.

Many local issues, such as transportation, extend beyond county boundaries. The Indiana General Assembly gave counties the authority to form multiple-county infrastructure authorities with the power to charge fees and issue bonds. To deal with infrastructure costs of residential development, both local officials and builders will be pursuing state legislation to allow for impact fees on a uniform basis. In contrast to the expansionary 1980s, a slow-growth 1991 economy constrains government revenue growth, making more efficient provision of government services necessary and priority setting more challenging.

Northwest Indiana

Leslie Singer

Professor of Economics. Indiana University Northwest

The recession that gripped Indiana in third quarter 1989 may finally spill over into Lake and Porter counties. It is difficult to find reasonably accurate measures of regional economic activity. We know that beginning in August 1989, steel employment relative to employment in the same month the year before has been falling each month; this is likely to continue to decline through most of 1991.

However, the loss of jobs was very small, ranging from about 100 to 600 jobs per month. Some of this drop was not cyclical but was due to redefinition or reassignment of functions. Seasonally adjusted manufacturing employment, which includes plants other than steel mills (some of which are quite small), did not decline until third quarter 1990.

The decline is expected to continue by relatively small amounts through most of 1991. The loss of jobs, including the losses projected for 1991, must be compared with the steep declines in manufacturing and steel employment of 8,000-10,000 jobs that the local economy experienced for most of 1984, 1985, and 1986. In fact, local manufacturing had only two really good years—1987 and 1988. This occurred in spite of the fact that the rest of the U.S. economy was doing swimmingly. The good news is that the present recession in Northwest Indiana is not going to be a manufacturing recession. We shall experience a shallow downturn—a long cold but not pneumonia. The payrolls are still rising at about a 4.8% rate in nominal dollars, or almost at the rate of inflation.

What are the reasons for a relatively optimistic forecast? First, the work week in manufacturing, as well as in steel, is more than 40 hours. The work week in steel was 43.6 hours in third quarter 1989 and 42.5 hours in third quarter 1990. The work week was 35-36 hours in 1985 and 1986, when the local economy was still fighting its way out of a recession. Thus manufacturing plants have a considerable cushion in average weekly hours before the downturn causes an actual loss of jobs. Moreover, manufacturing firms as well as steel firms will continue to hoard labor if management believes that the present recession will be short and relatively shallow. Steel plants have learned from past mistakes, when they lost much of their hard-to-replace local skilled labor to the auto and other industries.

The domestic nonmanufacturing sector may also be affected by the recession. Northwest Indiana has been undergoing a gradual structural change. Besides the manufacturing payroll, which pumps more than $2 billion into the local economy, we export low-wage labor from the urban regions and high-salaried professionals from the southern suburbs. The latter group is expanding because of the comparative advantage we hold in real estate values. In addition, we have more than 20,000 retirees from the manufacturing sector whose substantial pensions and savings contribute to the domestic economy. A large flow of health care payments, welfare, and social security income round out the external money flows. The local economy is increasingly more immune to national recessions. The banking, financial, and insurance sectors are liquid; thus there will be no repercussions from a credit crunch as is the case in other regions of the U.S.

In Northwest Indiana consumers perceive the upcoming recession as a short downturn, with a temporary reduction in income. They will not scale down their planned consumer purchases. However, this may not be the case in urban areas, with their poorer, more financially constrained households.

Should the downturn continue for most of 1991 and into 1992, which is possible, then consumers may gradually revise their spending plans and we may experience a deeper retail recession. There is some overexpansion of retail outlets, as I have pointed out in previous articles. Small strip shopping centers and

Table
Northwest Indiana

	Historical Data, Third Quarter of Each Year							Forecast 1990-1991						
	1984	*1985*	*1986*	*1987*	*1988*	*1989*	*1990*	*4Q 1990*	*1Q 1991*	*2Q 1991*	*3Q 1991*	*4Q 1991*	*1Q 1992*	*2Q 1992*
Total Employment (in 000s)	209.5	219.0	210.7	216.3	228.8	238.1	240.9	243.1	238.9	236.3	234.9	240.7	242.9	242.5
Non-Manufacturing	146.2	158.4	157.2	160.7	171.9	180.8	183.8	186.7	182.9	180.9	180.7	187.2	188.1	187.3
Manufacturing	63.3	60.6	53.5	55.6	56.9	57.3	57.1	56.4	56.0	55.4	54.2	53.5	54.8	55.2
Steel	41.6	38.6	33.6	35.5	35.2	34.9	35.2	34.7	33.7	34.6	34.8	33.4	34.2	35.0
Non-Steel	21.7	22.0	19.9	20.1	21.8	22.4	21.9	21.7	22.3	20.8	19.4	20.1	20.6	20.2
Non Goods Producing	135.3	145.1	146.0	148.0	157.6	165.6	168.8	169.6	166.7	165.9	165.9	169.4	171.7	170.1
Trade Fin., Health	67.5	71.9	72.4	74.6	79.4	83.3	85.3	80.1	79.4	79.2	80.8	81.4	84.4	83.3
Government	29.5	30.7	30.6	27.8	28.4	29.2	26.4	31.3	31.2	30.3	29.3	31.6	31.2	30.5
Misc. Services	38.3	42.5	43.0	45.6	49.8	53.1	57.1	58.2	56.1	56.4	55.8	56.4	56.1	56.3
Construction	10.9	13.3	11.2	12.7	14.3	15.2	19.0	17.1	16.2	15.0	14.8	17.8	16.4	17.2
	Annualized Payroll in Billions of Dollars													
Manufacturing	1.754	1.869	1.831	1.861	1.889	1.874	2.069	2.001	1.956	2.046	1.987	1.923	2.051	2.099
Steel	1.190	1.232	1.208	1.250	1.287	1.212	1.351	1.313	1.270	1.329	1.305	1.271	1.362	1.388
Non-Steel	0.654	0.637	0.623	0.611	0.602	0.662	0.718	0.688	0.686	0.717	0.682	0.652	0.689	0.711
Non Goods Producing	1.742	1.935	2.041	2.055	2.389	2.542	2.864	2.863	2.723	2.893	2.846	2.794	2.857	2.902
Man. Ave. Weekly HR	39.6	41.7	41.4	43.8	43.9	43.6	42.5	42.0	41.8	40.9	40.2	40.0	40.2	41.1
	Annual Change in Number Employed from Same Quarter One Year Ago (000s)													
Total Employment	-7.0	9.5	-8.3	5.6	12.5	9.3	2.8	3.0	-0.9	-3.1	-6.5	-2.4	-2.0	6.2
Manufacturing	-8.1	-2.7	-7.1	2.1	1.3	0.4	-0.2	-0.3	-2.6	-0.3	-2.5	-2.9	-1.2	-0.2
Steel	-7.5	-3.0	-5.0	1.9	-0.3	-0.3	0.3	0.5	-1.3	0.1	-0.1	-0.3	0.5	0.4

convenience stores that dot U.S. 30, small towns south of U.S. 30, along Central Avenue in Porter County, and in Hobart, are most vulnerable. I expect that a few small stores will exit if the recession progresses. Consequently, we may experience a slight drop in employment in the retail and service sectors. However, employment will decline less than sales, because sales personnel per square foot of selling space is regarded as a fixed cost. A retail recession has a lesser impact on jobs than a manufacturing recession, such as we experienced from 1980-1985.

I do not expect any weakness in the local residential real estate market, although growth will slow down. Unlike other parts of the country, Northwest Indiana has not been riding the crest of a speculative real estate boom. There isn't much overextension of office space, such as is the case in Chico, where vacancies are in the 20% range. Unfortunately, the poorer urban regions will be more vulnerable to a slackening real estate market than the southern towns of Lake County or Porter County, where residential and commercial construction will continue for much of 1991.

If the dollar remains at its present exchange level in international markets or even falls slightly, and if interest rates drop 50 basis points or more, then the local manufacturing sectors will rebound from a small loss as 1991 progresses and 1992 unfolds. This will add new confidence to local entrepreneurs as well as consumers. A high pent-up demand for infrastructure exists in the country; this may boost output of local steel mills and fabricating plants. I expect the recession to be over locally by about mid-1992, with relatively little damage done to Northwest Indiana's domestic economy.

There are several possible adverse scenarios. A recession in Europe could impinge upon local steel exports. A rising dollar exchange rate and rising oil prices may cut both exports and local production. Rising tax rates emanating from Congress may discourage both consumption and investment. Finally, a strike or a proxy fight at USX may disorganize and stymie local production, bringing about a much steeper decline in steel than anticipated. The chance of these events occurring, however, is less than 50%.

South Bend/Mishawaka-Elkhart-Goshen

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This year-end assessment of the economic condition of the South Bend/Mishawaka and Elkhart/Goshen communities is based on an analysis of the latest available economic indicators for the area tracked by the Indiana University at South Bend's Bureau of Business and Economic Research (BBER). A look at the indicators—particularly those relating to local employment—suggests that through late summer the area economies of South Bend/Mishawaka and Elkhart/Goshen had performed about as expected in the midyear area forecast (*IBR*, July 1990). On the other hand, these data were yet to reflect the impact of Iraq's invasion of Kuwait and the subsequent rise of oil prices. There is reason to believe that this event could very well have pushed an already sluggish economy into recession in the final months of 1990.

The accompanying **Table** summarizes the various indicators of local economic activity compiled by the BBER. These figures are seasonally adjusted and, with the exception of the unemployment rates and real estate data, are index numbers expressed as a percentage of base year values. Comparative indicators along with percentage changes are given for July and August 1990, as well as for August 1989.

Table
Economic Indicators

	South Bend/Mishawaka					Elkhart/Goshen				
				% Change	From				% Change	From
	August 1990	*July 1990*	*August 1989*	*July 1990*	*August 1989*	*August 1990*	*July 1990*	*August 1989*	*July 1990*	*August 1989*
Employment Data										
Establishment Employment[1]										
Nonagricultural	117.3	117.0	113.6	0.3%	3.3%	119.7	118.9	115.8	0.7%	3.4%
Manufacturing	95.7	94.2	99.4	1.6%	-3.7%	108.1	107.4	115.4	0.7%	-6.3%
Nonmanufacturing	123.6	122.9	117.8	-0.6%	4.9%	133.6	132.4	116.4	0.9%	14.8%
Unemployment Rate	6.6	5.7	4.2	n/a	n/a	6.8	4.7	4.9	n/a	n/a
Help Wanted Advertising[2]	78.7	85.3	96.9	-7.7%	-18.8%	85.8	95.7	86.6	-10.3%	-0.9%
Utilities[3]										
Industrial Electricity Sales	99.6	98.1	102.3	1.5%	-2.6%	104.6	104.3	108.7	0.3%	-3.8%
Commercial Gas Sales	104.4	96.0	95.7	8.8%	9.1%	103.9	104.2	82.6	-0.3%	25.8%
Industrial Gas Sales	66.2	69.9	81.8	-5.3%	-19.1%	54.2	45.4	54.5	19.4%	-0.6%
Retail Car & Truck Sales[1]										
New Passenger Car Sales	43.4	62.0	66.5	-30.0%	-34.7%	62.7	63.4	76.0	-1.1%	-17.5%
New Truck Sales	78.2	72.4	101.6	8.0%	-23.0%	75.5	79.0	90.0	-4.4%	-16.1%
Housing Construction Data[4]										
Estimated Value of Permits	128.9	135.5	159.2	-4.9%	-19.0%	98.8	168.2	133.7	-41.3%	-26.1%
Number of Permits Issued	91.6	109.0	122.5	-16.0%	-25.2%	76.3	116.0	105.3	-34.2%	-27.5%
Average Value Per Permit	141.7	129.5	130.0	9.4%	9.0%	121.3	147.5	119.8	-17.8%	1.3%
Residential Real Estate Data										
Number of Active Listings	1,462	1,441	1,271	1.5%	15.0%	1,751	1,720	1,445	1.8%	21.2%
Closed Sales										
Average Days Listed	83	75	54	10.7%	53.7%	86	86	77	0.0%	11.7%
Average Market Price	$71,636	$70,766	$67,144	1.2%	6.7%	$70,586	$70,386	$66,327	0.3%	6.4%
% of Sale to List Price	94.7	98.0	94.4	-3.4%	0.3%	96.0	96.0	95.0	0.0%	1.1%

All figures except for Unemployment Rate and Residential Real Estate Data are seasonally adjusted index numbers with base year 1986=100.
[1]*St. Joseph and Elkhart Counties.*
[2]*South Bend* Tribune *and Elkhart* Truth.
[3]*Electricity sales are South Bend and Elkhart. Gas sales are St. Joseph and Elkhart Counties.*
[4]*St. Joseph County, excluding cities of South Bend, Mishawaka, Osceola, Walkerton, and New Carlisle. Elkhart County, excluding cities of Elkhart, Goshen, Nappanee, and Millersburg.*

South Bend/Mishawaka

Irrespective of forecasts of impending recession, August was a very good month for South Bend/Mishawaka employment indicators. After seasonal adjustment, manufacturing employment rose 1.6% over July 1990. The 3.7% drop from August 1989 was a significant improvement over the 6% decline that showed in a July year-to-year comparison. The August improvement came in nearly all of the manufacturing sectors reported by the Indiana Employment and Training Services Department, with the most significant gain coming in the transportation equipment industry (an absolute increase of 700 jobs). The overall nonagricultural employment indicator continued to show a year-to-year gain of more than 3%. Construction, services, and government employment registered the largest nonmanufacturing gains. Even with these advances, cautious optimism would be advised, since other indicators such as the unemployment rate and the help wanted advertising index suggest some softness in the local labor market.

Other South Bend/Mishawaka indicators that are especially watched for business cycle swings continue to reflect the softness many feel lies beneath the employment figures. While the number of new housing permits issued remains at a respectable level, that index has come in under the 100 base-year value in four of the last six months reported. Residential real estate indicators have also shown noticeable moderation from activity that was recorded in the previous few years. The new passenger car index reached its lowest level in recent months.

Elkhart/Goshen

Elkhart/Goshen area employment indicators overall were also strong in August. When looking at the county's important manufacturing sector, however, the rise of .7% in August over July needs to be observed in light of the 6.3% deficit from August 1989. An exceptionally strong nonmanufacturing sector, up 14.8% from August 1989, more than offset this large drop in manufacturing employment. The construction, transportation, communications, and utilities industries registered the largest nonmanufacturing subsector gains. Softness in manufacturing came principally from the area's predominant recreational vehicle industry. Numerous reports of temporary layoffs cropped up in late summer.

As in St. Joseph County, the remaining labor market indicators and critical housing and automobile industry statistics suggest that the Elkhart/Goshen economy continues to soften. For example, the area's help wanted advertising index has registered below the 1986 base-year value in nine of the last 12 months, and the number of active residential real estate listings reached its highest level in several years.

Outlook

We remain concerned about the underlying condition of the national economy. With several months of a declining index of leading indicators, low consumer confidence, rising prices, and only moderate consumer expenditure, we continue to expect recession—albeit a mild one—in the immediate future. Such a scenario obviously suggests further softening of our local area economies. Specifically, we expect that the South Bend/Mishawaka area employment picture will at best hold its own over the next year. In Elkhart/Goshen, given the area's predominant manufacturing base, we expect to see a 2-3% decline in employment during the forecast period—which is a recession scenario, but one substantially milder than what occurred in the 1970s.

Kokomo

Dilip Pendse

Associate Professor of Economics

Unlike last year, when Kokomo's economy clicked on all cylinders, this year it has operated in low gear. The year began with hefty temporary layoffs in the auto sector. By the middle of the year, however, most idled workers were called back to work. Through the first three quarters of 1990, the average monthly labor force decreased 4.5% to 39,942, slightly higher than two years ago. On the jobless front, the average number of people out of work was 2,642, compared to 2,467 in 1989 and 2,715 in 1988. Consequently, the average unemployment rate during January-September 1990 remained at 6.6%, almost a point higher than a year ago and almost the same as in 1988. The monthly unemployment rate varied from 5.3% to 9.8% through the first three quarters of 1990, compared with 4.4% to 8.9% in 1989, and 4.9% to 9.9% in 1988.

Howard County's unemployment rate remained above the state level through September 1990. Not only that, except for the month of June, when Howard County's unemployment rate tied with the national rate, the local unemployment rate remained above the national average.

After nearly eight years of continuous growth of varying degrees, the fabric of Kokomo's economy is showing signs of aging. For example, from the yearly high of 14.6% in July 1982, Howard County's unemployment rate improved continuously until it reached a low of 4.4% in June 1989. The lowest unemploy-

ment rate in 1990 has been almost one point above last year's low. Another recent sign of aging is the declining level of industrial output, reflected in the shorter average manufacturing work week. During January-August 1990, the average manufacturing work week stayed at 41.6 hours, the shortest in the past three years.

The Service Sector in the Front Seat

Unlike a year ago, the unemployment statistics portray a shrinking economy, especially with respect to the labor force and the number of jobholders. What has kept the unemployment rate at a respectable pace is the strong growth in the service sector. During the first nine months of 1990 its strength grew by 900. Manufacturing payrolls stayed above the 18,000 level for most of the first nine months of 1990, accounting for 40% of total jobs.

In general, no sector registered massive gains or losses. Job growth in the TCU, FIRE, and state government sectors remained flat. The loss of 200 jobs in the retail trade sector, one of the major service sectors, was offset by gains in such sectors as local government and services. The service and government sectors added 800 and 100 jobs, respectively. Employment in the area schools, colleges, and universities grew by 100.

Pay Levels: Still the Best

For the seventh straight year, Kokomo held its status as the best-paid town in Hoosierland. Based on data released by the U.S. Bureau of Labor, Kokomo's average annual income edged 2.6% higher in 1989 to $27,132, the highest in the state and the 14th best among the nation's metropolitan areas. Last year's average annual pay in Kokomo was 15% higher than the national average.

Another source, *Sales and Marketing Management*, points out that in 1989 the median household spendable income, or effective buying income, in Kokomo was $27,796, the highest in the state and the 90th best among the nation's metropolitan areas. In that category, Kokomo has held the top rank in the state for the past five years.

In terms of the percentage of households earning at least $50,000 a year in spendable income, Kokomo again stands first among the state's 12 metropolitan areas, according to *Sales and Marketing Management*. One out of every five households in Kokomo earned at least $50,000 in 1989. Also in that year, the spendable income of all Kokomoans totaled $1.3 billion, $100 million more than in 1988.

Housing

How good was the housing sector? Given the national slowdown, the local housing market has performed quite well. Kokomo's housing market is neither hot nor cold; it is "squishy." Home sales in the first half of 1990 totaled 503, a modest 5% increase over the comparable 1989 period, according to the Center for Real Estate Studies in Bloomington. However, the sales volume was the second lowest since 1984. Despite a modest improvement, sales certainly remained slow. It is taking almost five months to sell a house. Not only that, a majority of the houses being sold are at the lower end of the price range, less than $70,000. The median price of a house sold in second quarter 1990 was $42,250, compared to $50,000 from the same period a year ago.

The number of building permits issued through the first nine months of 1990, excluding sign permits, totaled 441—12% below a year ago and the lowest since 1984. The decline was registered in all types of permits, residential and nonresidential. While the number of residential building permits slipped 10% from a year ago, non-residential building permits plunged 30%. Building permits for new businesses and offices sank 36% from a year ago.

While the permits issued for single-family dwellings remained steady at 127, the average value of a permit rose 21% to $105,000. It suggests that more expensive and upscale homes are being built to meet the needs of yuppie families. And although the number of permits issued is small, it is still the third highest in 12 years.

The Industrial Giant to Grow More

Delco Electronics, with an annual payroll of about $425 million, is Kokomo's industrial giant. It has grown markedly in the past five years and is going to grow once again. In October, the city was buoyed by Delco's unveiling of a plan to build a $41 million engineering and laboratory complex in Kokomo. The new facility, to be completed by mid-1992, will house 500 engineering, technical, and support personnel. And that's not all: Delco entered into agreements with or negotiated with domestic and overseas firms for the development and manufacturing of automotive electronic products. The domestic firms include Motorola Corporation and Texas Instruments, Inc., and the overseas firms include Sweden's Saab-Scania Combitech AB and the Soviet Union's Volga Auto Works. Many of the projects have already gotten underway, and they could significantly increase Delco's future domestic and overseas non-GM sales. Such projects could also result in additional manpower demand. Moreover, the recent relocation of the U.S. Navy's Electronic Manufacturing Productivity Facility to Indianapolis, and the formation of HE Microwave, a joint subsidiary of Delco Electronics and the Los Angeles-based Hughes Electronic Corp., could boost Delco's product lines, sales, and payrolls.

And there is more. New product lines and higher output levels enabled Delco to finally allow remaining workers in the JOB BANK program to join the active labor force in August 1990. The number of workers in the JOB BANK program, begun in 1984, had swollen to well over 1,000 by 1987. In the past three years, however, all workers have been gradually put back to work. The JOB BANK program has not only given workers income security but also enabled many to sharpen or broaden their work skills and enhance their overall preparedness for future jobs.

Other Upbeat Developments

Many capital expenditure plans that were announced or begun in 1990 will be completed in 1991. They include: United Presidential Life Insurance Co.'s new $11 million office complex; a $9 million Rehabilitation Hospital; local hospitals' expansion projects worth $1.3 million; and DuPont Photomask's $500,000 addition to its existing facility. Other small business capital expenditure plans that got underway totaled $8.6 million. In addition, in early November Grissom Air Force Base announced that it has been allotted $4.5 million in construction money for 1991.

The fall enrollment in the area public schools registered the smallest decline in several years. It appears that the enrollment slide that began in 1968 is finally leveling off or poised for an upturn.

On the manufacturing front, after a four-month struggle including a lock-out, demonstrations, and intermittent court battles, workers at Milbank Manufacturing Company in Kokomo settled their differences and reported to work in September. Milbank, employing more than 100 workers, manufactures metal electrical enclosures, meter trough sockets, and other metering devices. With no fuss, however, manufacturing workers at the local auto plants overwhelmingly ratified a new three-year labor contract hammered out in Detroit. The contract includes both modestly higher wages and income security.

In the surrounding area, Logansport Machine Company entered into a joint venture with Matsumoto Machine Company of Japan. Service Merchandise Inc. announced plans for a $17 million distribution center near Frankfort in Clinton County that could create 300 new jobs. Total Signs Company of Indiana, a maker of signs for retail distribution, selected Tipton as the site for its operation. Starting with a low number of ten, the company's work force is expected to rise to 150 when running in full swing. If and when it materializes, it could revitalize Tipton's economy.

Some Discomforting News

Not all news was positive. After rising continuously since 1980, retail sales in Kokomo dipped 1% in 1989 to $786.2 million, according to *Sales and Marketing Management*. Consequently, Kokomo's state and national rankings worsened. For example, in terms of retail sales per household, Kokomo's state ranking, which had continuously improved from tenth in 1982 to second in 1988, slipped five places to seventh. At the same time, Kokomo's national ranking, which had improved six years in a row since 1981, skidded several places to 87 in 1990.

Apparently, total retail sales declined due to a whopping 94% drop in apparel and accessories store sales. Also, service station sales declined 28%. Sales at local food stores and drugstores declined nearly 20% each. Among gainers, automotive dealers registered a hefty 20% improvement. General merchandise stores' sales increased 19%, while furniture/home furnishings/appliance stores' sales jumped 9%.

The 1990 preliminary census statistics confirmed the downtrend in local population projected by the Indiana Business Research Center. The preliminary data indicates that both the city and the county lost populations by almost 8% in the 1980s. Of course, the City of Kokomo and Howard County were not alone in the downtrend, according to the preliminary figures. Without exception, the neighboring counties and cities also lost population, some with even larger declines than Kokomo and Howard County.

Sea Nymph, a manufacturer of boats, ceased its Peru operation of less than two years. Just a year ago its work force had reached a level of 100. In November, Tipton's J.C. Penney Store, after doing business for 62 years, announced plans to permanently close its doors in January 1991.

Finally, although a year ago a 2.3 square-mile economically depressed area in Kokomo was awarded the enterprise zone status, it has not reaped the benefits expected. The enterprise zone did not bag any new businesses in 1990.

Economic Outlook

What's in store for Kokomo's economy in 1991? Is it teetering on the brink of a classic recession? Is it going to be staggered by the one-two punches of a slump in the auto industry and a downtrend in the national economy? The outlook is as muddy as the water of the Wildcat Creek. Much depends on at least three factors: (1) the intensity and duration of the downturn in the national economy; (2) the magnitude of the slump in the auto industry; and (3) the state of the European economy.

From all accounts, it appears that the U.S. economy has slid into a recessionary phase, perhaps a mild one. The national economy, to some extent, will adversely affect the economy of Kokomo. A slump in the auto industry, the mainstay of the local economy, is the one Kokomoans will have to carefully watch. It could take the economy on the down path, though not

as much as in the early 1980s. The local economy is healthier today because inefficient operations have closed, employment levels have been trimmed, and the major employers have greatly modernized and expanded the existing plants.

Kokomo industries are increasingly learning to grab a bigger bite of the European economic pie. Haynes International, for example, exports around 30% of its products overseas. Delco's European business now accounts for almost 3% of its total sales. DuPont Photomask is gearing itself to exports its products. Nevertheless, an impact of slackness in the overseas market on Kokomo's economy will be nowhere near the national economy's impact.

On the whole, the unemployment rate, which has hung around 6.6% for the past three quarters, will edge higher during 1991. It shouldn't surprise anyone if it hovers around 7% next year. For a month or two the unemployment rate may even vault into double digits.

Auto workers will likely face hefty, short-term, intermittent layoffs, some as long as a month. The pain and suffering on the part of temporarily idled auto workers, however, will not be as severe as in the past, thanks to the JOB BANK program and more income security guaranteed under the new 1990-93 labor contract. Delco's earnings, however, could suffer from reduced auto production.

The overall outlook for new members of the work force and those reentering it is likely to remain weak. The job outlook in the finance, insurance, real estate, and retail trade sectors should remain soft. A retrenchment will likely occur in the service sectors that have prospered in the wake of the thinning of manufacturing jobs. Health care is the only sector where some growth will occur.

The housing sector will likely remain subdued. Home improvement contracts will see little improvement. The volume of houses sold will decline to below 1,000. Building permits for new single-family homes will be down by 5-10% from the 1990 level. Overall, the number of building permits issued, excluding sign permits, will be down to the low 600s.

Although the near-term outlook is tepid, the economic weather in the long run will be sunny and bright. Unlike in the past, there are no dark clouds hanging on the economic horizon. New opportunities are in store for Kokomo's Delco Electronics, Chrysler Corporation's Transmission Plant, and Haynes International. All in all, Kokomoans haven't seen the best times yet.

Lafayette

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When macroeconomists discuss what causes ups and downs in the economy, they often focus on what are known as macroeconomic shocks. Shocks are unanticipated events that alter the direction of economic growth either up or down. Some research published a few years ago by James Hamilton of the University of Virginia suggests that every major downturn in the post-war era, except one, has been caused by an oil price shock. Obviously, the economy is facing that same outlook today as the uncertainty in the Middle East leads many to wonder what the price of oil will be over the next six months or year.

Although I have mentioned before that Lafayette, because of its diversified economy and the presence of a stable employer in Purdue University, is less prone to recession than the state as a whole, this may not be true with regard to oil price shocks. A statistical analysis of local and state unemployment rates in response to changes in the price of oil shows that over the last 15 years the Lafayette unemployment rate has been more responsive to changes in the price of oil than has the economy of the state as a whole. A 1% change in the price of oil leads to approximately a .5% change in the unemployment rate in Lafayette and approximately a .3% change in unemployment rates for Indiana. These data suggest that a rise in the price of oil, if sustained over the entire year, could influence a downturn in the Lafayette economy.

It is also interesting to view the impact of changing exchange rates on the local area. If interest rates continue to decline, the dollar will fall even further as investors sell their dollars to buy foreign currency and invest overseas in the hope of earning a better return. If the dollar is cheap, U.S. goods are cheaper to foreigners and exports typically rise. Would a falling exchange rate benefit the local economy? In a statistical analysis of data over the last 15 years, I find little or no impact of a change in exchange rates on local unemployment. Thiswould indicate that the local economy is not internationally driven and is therefore not subject to variation with exchange rate fluctuations. Of course, some local firms will benefit from a falling dollar, but in general the effect is negligible.

That is not the case for Indiana as a whole. There is a positive and significant relationship between exchange rates and Indiana unemployment. If the dollar rises in international markets, making Indiana goods more expensive, then the unemployment rate rises. On the other hand, if the dollar falls, as it is expected

to do this year, there is a decline in Indiana unemployment. This relationship is statistically significant.

Previous analysis of the Lafayette economy reveals that the local unemployment rate rises about .7% for every 1% rise in the national rate. Given that the national economy appears headed for a downturn, and given the responsiveness of the local economy to the price of oil, I expect the economy in Lafayette to be worse in six months than it is now. Two areas that may experience difficulty include the retail area and housing sales. The University of Michigan's survey of consumer confidence showed the largest monthly drop in the last 25 years occurring in August. This uncertainty often reveals itself in falling retail sales. In addition, there appears to be softness nationally in the housing market, some of which will be felt in Lafayette. As with the national economy, though, this downturn should not be too steep or too long.

Columbus

Patrick M. Rooney

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The local labor market is leaking primarily negative signals (see **Table 1**). The number of persons employed is down 2% from last quarter and 5% from a year ago. While the number of unemployed is down 13% from last quarter, it is 6% above the third quarter of last year. More ominously, the unemployment rate averaged 5.2% in third quarter 1990, which is 11% above a year ago. Also, new unemployment insurance claims are up 79% from last year. Finally, our Help Wanted Advertising Index is 8% lower than it was last year at this time and 8% below its level for the previous quarter this year.

Housing construction data indicate a large degree of variability. The decline in the estimated number of permits issued (-2%) and in the average value per

Table 1
Columbus Area Data

	3Q 1990	*2Q 1990*	*% Change 2Q-3Q*	*3Q 1989*	*% Change 3Q 89-90*
Employment Data:					
Number of Persons Employed	28,637	29,217	-2	30,123	-5
Number of Persons Unemployed	1,560	1,797	-13	1,470	6
Unemployment Rate	5.2%	5.8%	-10	4.7%	11
Continued Unemployment Insurance Claims—Columbus	2,439	4,169	-42	1,863	30
New Unemployment Insurance Claims—Columbus	439	462	-5	245	79
Help Wanted Advertising (1987=100)	179	195	-8	194	-8
Housing Construction Data:					
Estimated Value of Permits Issued (000s)	1,870.2	1,635.7	14	1,901.0	-2
Number of Permits Issued	21	22	-5	17	24
Average Value per Permit	89.1	74.4	20	112	-20
Residential Real Estate Data:					
Sold	260	258	1	246	6
Average Days Listed	114	117	-3	109	5
Average Market Price	$77,391	$76,215	2	$77,541	0
Sales Data:					
New Car Sales	604	450	34	517	17
Used Car Sales	2,495	2,700	-8	2,643	-6

Sources: Indiana Business Research Center, Indiana University; The Republic; Department of Technical Code Enforcement; Indiana Bureau of Motor Vehicles; Multiple Listing Service; Indiana Department of Revenue; Indiana Bureau of Economic Analysis.

Table 2
Sales and Profitability Data

CRITERIA	*INDUSTRY OR FIRM*				
	All	*Auto*	*Parts*	*Arvin*	*Cummins*
% Change in 3Q Sales from 1989	9	6	6	14	3
% Change in Sales from 1989 1st 9 months	7	-2	1	11	-4
% Change in 3Q Profit from 1989	7	N.M.	-8	121	N.M.
% Change in Profit from 1989 1st 9 months	-6	-83	-26	-6	N.M.
Return on Common Equity (year ending 9/30/90)	11.3	2.6	8.7	5.7	-15.6
12 mos. Earnings per Share	1.82	0.82	1.66	1.10	-5.79

permit (-20% from third quarter 1989) suggest pessimism in the minds of buyers and builders. While the housing market is far from collapsing, the average market price is essentially unchanged from a year ago. This type of stagnation makes it a good time for buyers; unfortunately, most would-be buyers cannot easily sell their current homes—at least not for what they had anticipated.

Given that the average existing home price nationally fell 3.3% in September, the fact that local housing prices did not fall suggests that the local market may be stronger. This could be explained by the fact that both coasts experienced rapid appreciation (exceeding 50% in some areas) over the past few years. Since we did not have that same type of speculative bubble, we should not have the same type of bursting.

Housing in Columbus remains quite affordable, especially compared with the rest of the nation. In third quarter 1990, the median home price in the Columbus area was $58,000, versus $60,000 in the state and $94,800 nationally. Our housing affordability index hit 162 in the third quarter, compared with 154 for the state and 106 nationally. As interest rates fall, we expect to see the affordability index increase.

Commercial construction also indicates a softening market. Although the number of permits for the first ten months of this year is up 28% from the same period last year (59 compared to 46), the value of those permits fell from almost $55 million last year to $33 million this year. The average value per permit has thus fallen 52%. The volatility of commercial construction makes short-term dollar and unit changes more difficult to weight in their effect on the economy.

One of the few pieces of good news locally is that new car registrations for the county are up 34% from second quarter 1990 and up 17% from a year ago. Even this relatively good news must be tempered; for the month of October, new and used car registrations were each more than 50% below their respective averages for the last two Octobers and more than 50% below the August 1990 level.

Recently, *Business Week* (November 19, 1990) released sales and profitability data for industrial firms overall, by industry, sub-industry, and firm. We can use this information to evaluate both the trends of the industrial economy and our local *Fortune* 500 firms. The data (see **Table 2**) clearly indicate that the auto and auto parts industries are performing far worse than the all-industry composite. Arvin is generally outperforming the auto and auto parts industries; it is also outperforming the all-industry composite in most measures—except two of the more important, return on equity and earnings per share. Cummins, on the other hand, is below the auto industry, auto parts industry, and overall composite in nearly all measures. The negative earnings is especially troubling, as firms—even very large firms—cannot operate at a loss indefinitely.

Local Forecast

The declining value of the dollar will help our manufacturing firms by sheltering them to some degree from foreign competition and increasing foreign demand for U.S.-produced goods. If the Fed acts to push down interest rates further, as it should, we can anticipate the dollar's falling below 120 yen per dollar, which should boost exports dramatically.

Unfortunately, this is unlikely to be sufficient to offset the decline in domestic demand as the economy slows or recesses. Given the procyclical nature of the durable goods industry, which constitutes the backbone of the local economy, even a moderate slowdown can be expected to trigger fairly serious layoffs or postponements of additional capital expenditures and hirings. This will have an adverse direct effect on the local economy as well as a negative multiplier effect, as supply firms and the service sector suffer when incomes in the primary sector fall.

Terre Haute

Marvin Fischbaum

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Local economies can and do go their own way. For the decade of the 1980s, fighting stubbornly against the tide of a protracted expansion in the U.S. economy, Terre Haute managed to experience a net decline in its level of employment despite a modest recovery near the end of the decade. Conversely, in 1990 Terre Haute exhibited few signs of falling into recession, as economic activity was supported by a substantial increase in construction activity. The question is: can a second sluggish year for the United States lead to another good year for Terre Haute?

In September 1990 the estimated unemployment rate for the Terre Haute MSA stood at a healthy 4.1%, essentially unchanged from the 4.3% level of the previous September. For most of 1990 the local unemployment rate had been moderately higher than for the corresponding month in 1989, but below state and national levels.

The Labor Department provides two measures of employment. Compared with 12 months earlier, September employment either fell by 1,300 or 2.3%, according to household survey data, or rose by 900 or 1.6%, according to the estimate based on employer reports. Reversing the trend of the 1980s, manufacturing employment increased by 2.8%, while service employment actually decreased by 1.4%. The net increase in establishment employment was more than accounted for by a 1,300 or 46% increase in construction.

At its present level Terre Haute construction has a location quotient relative to Indiana of 1.31. That is, the percentage of the labor force engaged in construction is 31% higher than for the state as a whole. Perhaps more to the point, construction employment is approximately twice as high as the average of metropolitan areas with similar overall levels of employment—Bloomington, Kokomo, and Muncie. Single-family construction permits have been about even with 1989; apartment permits increased sharply, but entirely because of a 136-unit complex registered in October. Nonresidential construction is the focus of activity, with permits up 125% over the past year and up eightfold from the level of the mid-1980s.

Virtually all the nonresidential construction activity, and indeed most of the value of new building permits, reflect projects announced in 1988 and 1989. In the second half of 1990 the only major new commitment was to a School of Technology building at Indiana State University, funded in part through the efforts of Representative John Myers. However, despite a declining backlog, enough nonresidential construction activity remains in the pipeline to provide continued strength through 1991.

In the second half of the 1980s, a fairly robust level of new home construction seemed out of step with a resale market that remained weak. Gradually the two markets have become more closely aligned as the resale market has improved. That trend continued in 1990. Comparing third quarters, realtors sold 17% more homes this year at an increase in average price of 6.4%. However, there remain 3.5 houses listed for every house sold from July through September. Further, at the high end of the resale market, asking and selling prices have increasingly diverged. Since much of the new home construction has been at the very high end, this may presage weakness in new home construction for the coming year.

The prospects for new industry are not particularly good. The long saga involving BASF finally ended when the company tired of fighting local environmental groups and decided to locate its paint plant elsewhere. Plasma Fusion expressed a strong interest in siting a steel mini-mill in the building that had housed J.I. Case. The mill would employ a similar number of workers to BASF at good wages, but several hurdles stand in the way of its realization. Modern Album permanently closed its doors in the midst of a strike. Workers expressed mixed feelings regarding the loss of 130 jobs, noting that pay had been quite low. The closing of the Pillsbury plant is still in process.

Another possible portent of weakness is that whereas initial claims for unemployment insurance since September have remained generally strong, average weekly hours worked in manufacturing declined sharply in that month, from 41.7 in August to 37.7. On a more positive note, a survey conducted by the Indiana State University Center for Research and Management Services indicates that businesses are about as optimistic as they were 12 months ago. More than three-fifths of the respondents believe that the 1991 outlook is positive, and 55% expect to expand their businesses, a slightly higher number than last year. In 1990 Terre Haute gave up low-paying jobs in construction. When area personal income data become available for 1990, they will probably confirm that Terre Haute experienced its largest increase in real income in more than a decade. That scenario will not be repeated in 1991, but one does not find clear signs of an imminent area recession.

Richmond-Connersville-New Castle

Ashton Veramallay

Director, Center for Economic Education, Indiana University East

The Richmond-Connersville-New Castle (RCNC) economy, like the national economy, is in a recession. More than 75 percent of the firms responding to my survey are experiencing in varying degrees the adverse effects of current economic conditions. For some firms, particularly in manufacturing, the decline in economic activity is more pronounced. The outlook for 1991 is far from rosy. If present trends continue, the recession will last for at least two quarters. However, if war breaks out in the Middle East, the recession would be protracted and deep because of the vital importance of oil to the world's economy. Higher input prices will not only increase production costs but also hurt an already weakened economy.

RCNC's unemployment rate will fluctuate between 7-8%. Employment growth in the manufacturing sector will be sluggish unless it is offset by internal expansion or attraction of new firms. It is important to note that continuing erosion of the manufacturing sector's base, as high-paying jobs are replaced by low-paying jobs, will ultimately affect both regional economic growth and quality of life. Creative diversification, if undertaken efficiently and strategically, can cushion the impact.

Employment growth in the service sector will increase slightly. Improved infrastructure such as roads and bridges will facilitate the movement of goods, services, and people with some positive effect on the local economy in the long run. But it is the social infrastructure that catalyzes economic development. Most firms, pursuing a wait-and-see approach, do not plan activity in 1991 and are very much concerned about the negative impact of recent tax assessments in Richmond.

Furthermore, consumers experiencing declining real disposable income are adopting a similar approach. They are uncertain about the future course of the national economy, their jobs, war in the Middle East, and other things. Consequently, they are not buying big-ticket items. This does not bode well for the retail sector; there will be no robust ringing of the cash registers in the fourth quarter. However, sales promotions, discounts, and other gimmicks could lure reluctant consumers. When economic times are hard, consumers cut spending by postponing consumption. They buy cheaper and fewer gifts and shop at discount stores. Fourth quarter sales for most firms in RCNC represent at least 35% of gross revenues, and the outlook is average to flat.

There is some optimism in this short-term pessimistic forecast. The Fed's expected relaxation of its tight monetary policy will eventually mean lower interest rates for businesses and consumers. Also, the dollar's continuing depreciation will boost sales of local firms engaging in international trade, helping to lessen the trade deficit. Europe 1992 and the emergence of new markets in Eastern Europe, Asia, Africa, and Latin America offer good prospects for an early upturn in economic activity in 1991.

Evansville

Maurice Tsai

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In 1990 the Evansville economy was stronger than in 1989. For the first three quarters, the Evansville Area Business Index rose at an average of 1.1% per quarter (see the **Table**). However, growth was dealt a setback in the fourth quarter as the nation and the region fell into a mild recession. Thus, the growth rate in 1990 will be reduced to 2.6%, still the best performance since 1986. The growth was supported by strong trade and services sectors, a revived transportation sector, and continued improvement in area employment. The trade and services index has grown over 3% each year for the last four years. The trade employment and service employment increased 1.8% and 5%, respectively. The transportation sector, which had been sluggish for four years, became active in 1990 after substantial improvement in the area's transportation network. The area employment index rose by 2.7% or better each year during the 1987-90 period. From August 1989 to August 1990 there were large increases in employment in the construction and service sectors. The area unemployment rate was 5.8% in January but fell to 4.9% in August.

In the coming year the impacts of the national recession will prevail, at least in the first quarter. The recovery phase will likely start in the second quarter, and the area economy should resume its growth process. The annual growth rate for 1991 is projected to be below 1%.

No substantial growth will occur in the manufacturing sectors. A slow first half will be followed by an active second half. Overall annual growth for this sector will thus be minimal. In the trade and services

Table
Evansville Area Business Index (1977=100)

	Industrial Production	Trade & Services	Construction	Transportation	Finance	Employment	Composite Index
Quarterly							
3Q 1989	125.12	123.28	109.08	99.78	106.91	115.70	119.75
4Q 1989	123.64	125.67	108.26	99.83	107.47	118.65	120.29
1Q 1990	121.17	128.44	123.48	104.51	106.38	118.44	122.16
2Q 1990	126.00	128.23	123.56	101.85	106.13	118.55	123.43
3Q 1990	127.51	128.03	124.76	102.72	106.87	120.59	124.30
4Q 1990*	124.88	128.00	124.27	103.03	107.50	119.19	123.22
Annual							
1987	120.57	115.24	131.46	98.04	109.98	109.52	116.58
1988	123.76	119.71	115.54	98.58	108.38	112.67	118.22
1989	124.48	124.00	116.41	99.64	107.59	115.82	120.40
1990**	124.90	128.22	124.27	103.03	106.72	119.19	123.53
1991*	125.00	131.00	122.00	104.00	107.00	121.00	124.40
Annual Growth Rates (%)							
1987	3.9	4.1	-24.6	-1.4	0.1	2.0	-0.5
1988	2.6	3.9	-12.1	0.6	-1.5	2.9	1.4
1989	0.6	3.6	0.8	1.0	-0.7	2.7	1.7
1990**	0.3	3.4	6.8	3.4	-0.8	2.9	2.6
1991*	0.1	2.2	-1.8	0.9	0.3	1.5	0.7

** projected*
*** estimated*
Source: School of Business, University of Evansville.

sectors, the growth rate will be about 2%, most of which will occur in the second half of the year. Housing construction will be below the 1990 level, because the mortgage rates will not drop enough to stimulate housing activities. The business and public construction will also taper off from the 1990 level. So the total construction sector should experience negative growth. The transportation sector will continue its growth at a 4% rate. The financial sector will begin to recover after a few years of retreat and consolidation. Lower short-term interest rates will provide stimulus to this sector. In the second half of the coming year, the area employment will resume its expansion, resulting in an annual growth of 1.5% in the employment index.

In summary, the Evansville economy will emerge from the mild 1990-91 recession and grow at less than 1%, which will be slightly better than the national economy. A growth rate of 2-3% is quite probable for the Evansville economy in 1992 and after.

Jeffersonville-New Albany (Louisville Area)

Fay Ross Greckel

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The Louisville-area economy showed somewhat greater vigor than expected during the first six or eight months of 1990. While this area is not immune to the economic problems plaguing much of the rest of the nation, local indicators do not yet point clearly to a recession.

Total employment in the seven-county metropolitan area (Clark, Floyd, and Harrison in Indiana, and Jefferson, Oldham, Shelby, and Bullitt in Kentucky) increased by nearly 15,000 jobs in the four quarters that ended in September—the same magnitude of increase that had occurred the previous year (see **Table 1**). Unfortunately, most of the 1989-90 job growth occurred in late 1989 and early 1990, accord-

ing to the currently available statistics. Preliminary October data indicate rather flat employment levels for the fall. (These statistics will be revised by the reporting agencies in early 1991, and the last two years' revisions resulted in significant upward adjustments in the data.)

The following sectors showed the most job growth compared with a year ago: health services, business services, eating and drinking establishments, food stores, and government. Employment also increased in manufacturing and construction.

State government statistics, after adjustment for normal seasonal fluctuations, show that the number of jobs held in the Indiana segment of the metropolitan area reached a peak in first quarter 1990 and declined in the next two quarters. As a result, similar employment levels were recorded in the third quarters of 1989 and 1990. September, the latest month for which data are available, actually showed 700 fewer jobs than the same month a year earlier.

Table 1
Louisville Area Establishment Employment[1], 1987-1990

	Total Nonfarm	*Manufacturing*	*Nonmanufacturing*
Entire Metropolitan Area[2]			
Annual Averages			
1987	437,400	87,100	350,300
1988	454,600	88,500	366,100
1989[3]	469,200	88,400	380,800
Quarterly Averages			
1Q 1989	464,400	89,400	375,000
2Q 1989	466,700	88,500	378,200
3Q 1989	469,000	87,300	381,700
4Q 1989	476,800	88,400	388,400
1Q 1990	483,200	87,900	395,300
2Q 1990	480,400	88,600	391,800
3Q 1990	483,700	88,600	395,100
Clark, Floyd, and Harrison Counties (Indiana) Only			
Annual Averages			
1987	59,300	13,400	46,300
1988	61,100	13,800	47,300
1989[3]	61,400	13,500	47,900
Quarterly Averages[3]			
1Q 1989	61,000	13,600	47,400
2Q 1989	61,100	13,400	47,800
3Q 1989	61,200	13,500	47,700
4Q 1989	62,200	13,500	48,600
1Q 1990	62,600	13,800	48,700
2Q 1990	61,700	13,900	47,800
3Q 1990	61,200	14,000	47,200

[1]Employment in establishments located in the area specified; quarterly data are seasonally adjusted by the author.
[2]Consists of Clark, Floyd and Harrison counties in Indiana, and Jefferson, Oldham, Bullitt, and Shelby counties in Kentucky.
[3]Subject to revision by data sources in 1991.

Sources: Indiana Department of Employment and Training Services, Kentucky Cabinet for Human Resources.

Table 1 reveals that southern Indiana employment was far from static during this period. Employment in manufacturing increased noticeably, largely as a result of Jeffboat's resurgence. Employment in nonmanufacturing fell, uncharacteristically, due mainly to a sharp reduction in jobs in the local school systems. Neither the latter decline nor the small employment increases or decreases in other sectors provide much insight into the likelihood of recession locally.

Still pursing the recession question, we might look briefly at unemployment statistics, although these are not particularly reliable at the local level. Although nationally the number of persons unemployed and the unemployment rate are higher than in 1989, state estimates of these statistics for the Louisville area show both the number and the rate to be below the 1989 level in recent months. In fact, the October unemployment rate reported for the metropolitan area was a very low 3.8%.

Economists generally regard both unemployment and employment statistics as "lagging indicators," since firms generally do not lay off workers at the first sign of declining output. Employers are more likely, for example, to cut back on hours worked at first. However, the average length of the work week in Louisville-area factories was a healthy 42.3 hours for both September and October, considerably above the 1989 level.

In the nation as a whole, home sales and new housing starts have been declining—something that normally occurs fairly early in a recession. Here again, the Louisville area appears to be doing better than many other parts of the country. For the first nine months of 1990, residential building permits—an indicator of future construction activity—were 7% higher than the same period of 1989. (As **Table 2** indicates, building permit data refer only to Indiana counties and Jefferson County, Kentucky, which includes Louisville.)

Floyd County was the only jurisdiction where 1990 permits were running behind 1989. However, that difference is due to the unusually large number of apartments built during 1989; single-family home permits were higher in 1990, and the total residential permits issued through September 1990 exceeded the number issued for all of 1989.

Residential building permits in the four-county area declined rather sharply in September. However, it is not at all clear whether that marks the onset of a building slump, since October saw permits increasing again to a level that surpassed both September 1990 and October 1989.

Nonresidential construction will probably not be as strong in 1991 as it has been this year. Several major projects are finished or close to completion, and less highway construction is anticipated. Still,

Table 2
Residential Building Permits, 1987-1990[1] (number of dwelling units)

	Jefferson Co. Kentucky	*Clark Co. Indiana*	*Floyd Co. Indiana*	*Harrison Co.[2] Indiana*	*4-County Total*
Totals for Year					
1987	3,169	224	397	157	3,947
1988	2,686	341	387	148	3,562
1989	2,304	321	548	140	3,313
Totals for first nine months (Jan.-Sept.)					
1987	3,013	186	1295	128	3,622
1988	1,807	254	334	126	2,521
1989	1,925	248	362	107	2,642
1990	2,158	249	389	131	2,927

[1]Number of residential units for which building permits were issued, including single-family dwellings, apartment units, and condominium units.
[2]Excluding Corydon, for which data were not available.

Source: Kentuckiana Regional Planning and Development Agency.

there will be considerable activity. For example, in New Albany, Indiana University Southeast and Key Communication recently broke ground the same day for substantial new buildings; Jeffersonville's extensive riverfront development project should be underway by next spring; and several projects have been announced for Jefferson County, Kentucky.

Jefferson County realtors sold 5% more homes in the first ten months of 1990 than in the same period of 1989. Although sales dipped in September, they rebounded very strongly in October. In Floyd, Clark, and Harrison counties, virtually the same number of homes were sold in the first eight months of 1989 and 1990, but 1990 sales were lower in September and October.

Greater weaknesses appeared elsewhere. New car and light truck sales, which had matched the 1989 levels during the first six months of this year, fell rather sharply behind in the third quarter. Floyd and Clark county dealers actually posted a gain in new car sales for the nine-month period, but that was offset by a drop in sales of light trucks.

Emergency food rations distributed by Dare to Care during the first three quarters of this year increased for the third year in a row, although the 3% rise this year was well below the 16% jump experienced during the first three quarters of 1989.

The local economy is feeling the effects of the national decline in housing construction and automobile sales, as evidenced by lower employment in the wood products and furniture sectors and by the temporary layoffs at Ford and at GE's Appliance Park. But the metropolitan area economy is more diversified than in past decades and less dependent upon industries that are highly vulnerable to business cycle downturns. Health services, for example, provide nearly as many jobs toady as durable goods manufacturers.

In addition, the steady but relatively cautious building of new homes, apartments, and offices in recent years means we are not presently faced with a glut in those areas. In fact, a national survey in the third quarter of this year showed a decline in office vacancy rates in both the downtown and suburban areas—and showed Louisville with the lowest office vacancy rates among the cities surveyed.

It appears, then, that the Louisville area is not at present suffering a recession—although it is certainly not enjoying a boom either. While some signs of weakness were noted above, other data suggested the possibility of continued slow growth. Whether—and to what extent—this area experiences recession conditions depends largely on how deep and prolonged a decline occurs on the national level. Barring international hostilities, there is reason to believe that the national recession will not be terribly long or sharp. In that case, 1991 looks like a sluggish year for the Louisville economy, but not one in which it will suffer a major decline.

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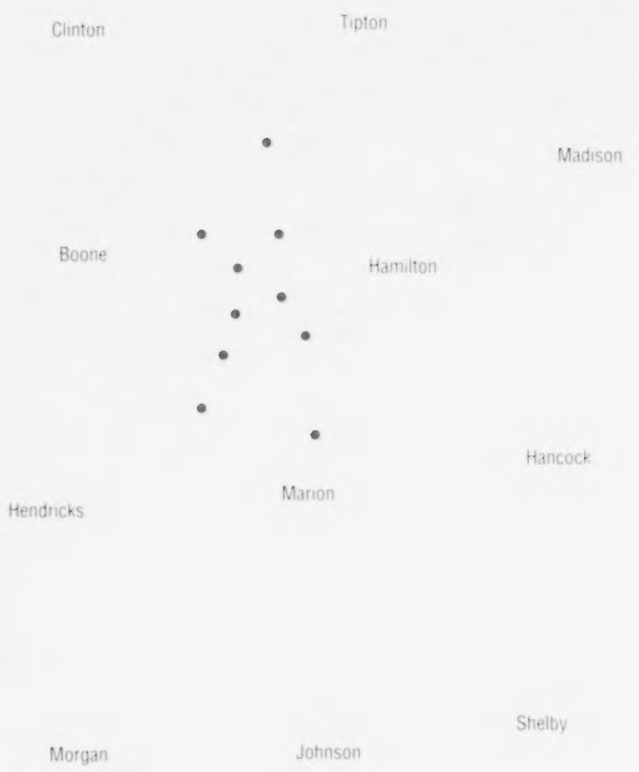

Indiana's Center of Population, 1900-1990

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Indiana's Center of Population, 1900 to 1990

Jerry McKibben

One of the more popular statistics that appears after each census is the location of the center of population in the United States. Calculated for each census since 1790, the U.S. center of population has marched steadily westward for 200 years. For six decades (1890 to 1940), it was located in the state of Indiana, before slipping over to Illinois in 1950. The 1990 center of population is expected to be somewhere in southeast Missouri when the final census numbers are released.

In itself, a singular center of population is not a very useful statistic. Its strength lies in the fact that the changes in population distribution can be measured over time when a series of centers is plotted. The technical definition of a center of population is "a near point of the population distribution over an area that may be defined as the center of population gravity for the area." In other words, it is the point in which an area would balance if it were a rigid plane without weight and the population were distributed on it, each individual being assumed to have an equal weight and exert an equal influence on the center point proportional to his distance from the point. The pivotal point, therefore, would be the center of gravity (Shryock and Siegel 1976). The greater the distance between the plotted points, the greater the change in population distribution over that period of time. The direction of the change in distribution can also be measured by examining the angle of change between the plotted points.

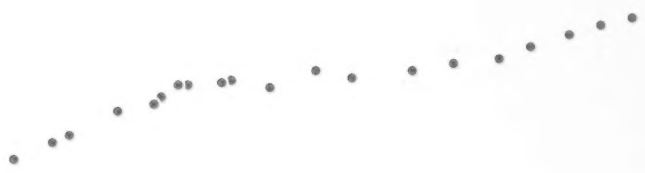
Figure 1 shows how the U.S. center of population has shifted over the last 200 years. In 1790, when most U.S. citizens lived on the east coast, the population center was near Baltimore. With each subsequent census it moved west—rapidly in the early 1800s and again after the Civil War, due to the high levels of foreign immigration. After the immigration flow was cut off by 1910 and 1924 immigration laws, the changes became much smaller as westward migration slowed. After 1950, with the increase in internal migration, the center moved west again at a faster pace.

Between 1790 and 1950, the center point movement was always westward, with little north-south movement. In fact, for 160 years the point was never more than 16 minutes away from the 39th parallel. This shows that while the U.S. population was moving westward, both the northern and southern regions were growing at an even rate. After 1950, the center began moving south and west, reflecting a trend of stronger growth in the southern half of the country, as well as continued growth in the west. By 1980, the center had crossed the Mississippi River, and it is estimated that the 1990 center will, for the first time, show more movement southward than westward.

The same concept of comparison of population distribution can be applied to the state level. Indiana's settlement history played a part in the movement of its center of population. Unlike the U.S., which was settled east to west, Indiana was settled south to north. In 1820, the state center of population would have been somewhere in Washington County.

By 1900, however, the county with the largest population was Marion, located in about the exact center of the state. The remaining population lived in about equal proportions north, south, east, and west

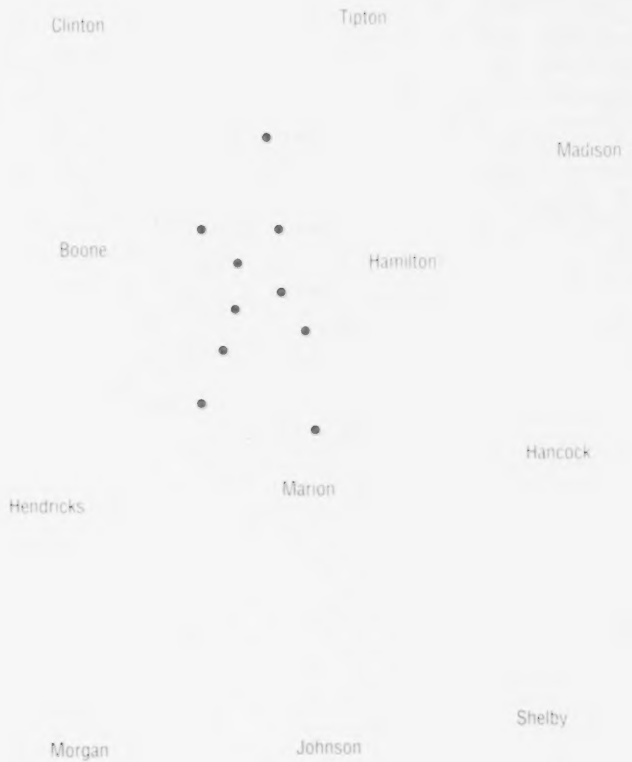
Figure 1



of the capital, so the state center of population was in northern Marion County (see **Figure 2**). Given the size of Marion County's population and its location in the center of the state, it has exercised a strong influence on the location of the center of population.

To move the center over time, there must be extraordinary change in the distribution of the state's population, and the change must take place in areas located as far away as possible from the center of Indiana. This is exactly what has happened over the last 90 years. The largest change in Indiana population distribution has occurred in the northern tier of counties and in the Ohio River counties in the south.

Figure 2



Between 1900 and 1910, the population of Lake County more than doubled. This was the primary distribution change of the decade. Therefore, we see a westward and slightly northward movement of the population center by 1910. The growth of the steel industry in just one county over 10 years was enough to move the center about 10 miles. This is perhaps the best example of how population changes in just one area can change the distribution patterns of the entire state.

However, it is important to note that the center of population moved only eight miles in the decade. Thus in Indiana, unlike in the U.S., small changes in the population center can reflect relatively large changes in the state's population distribution.

By 1920 the automobile revolution was well under way, and Indiana was a leader in the manufacturing of automobiles and automobile parts. This industry was centered in the northern third of the state, particularly in St. Joseph, Elkhart, and Allen counties. There was a corresponding flow of in-migration to the area, causing many of the northern counties to grow faster than the state average. This caused the 1920 center of state population to move almost straight north into southeastern Boone County. These trends continued throughout the 1920s, and by 1930 the population center had moved north once again—this time to the area around Northfield in Boone County. This is a rather unique situation, given that the geographic center of the state is in the same area. This gives Indiana the distinction of being one of the few states that has geographic and population centers in roughly the same place.

The Great Depression of the 1930s slowed the change of population distribution in Indiana, just as it did for the rest of the U.S. The industrial growth of the northern part of the state slowed to a standstill. Ratios of population increase for northern counties dropped to near the state average.

Yet the 1940 center of population shifted eastward from the 1930 point. The cause of this change was not population growth, but rather population decline. The agricultural counties in the western part of the state, as well as counties that had large numbers of people employed in mining (particularly coal), saw no growth or outright population decline in the 1930s. This factor was sufficient to shift the 1940 population center about five miles east, to the area around Eagletown, in Hamilton County.

In the 1940s economic growth returned, with the war boom early in the decade and a consumer boom in the last half. The growth in manufacturing in the northern third of the state increased at a rate faster than it had in the 1920s. Population growth followed suit, accented by an increase of in-migration to the state from the southern region of the country. This,

coupled with the continued slow population growth in the southern half of the state, moved the 1950 center of state population almost straight north to just outside Sheridan in Hamilton County.

The trends of the 1940s continued in the 1950s, and the population center also continued north. An additional factor affecting the northward trend was the post-war baby boom, which would reach its peak in Indiana in 1957. Though both the birth rate and the number of births increased for all areas of the state during the 1950s, the increase was substantially higher in the northern third of the state than in the southern third. This trend accelerated the difference in growth rates of the two parts of the state, and the movement in the population center was the greatest change recorded in this century. The results of the 1960 census placed the center in northwest Hamilton County, just east of the Clinton County line. This was to be the apogee of the center's northward progress; the era of high northern population growth was coming to an end.

The 1970 census shows a slowdown in the overall population growth rate for Indiana. The rate for most northern counties slowed to approximately the state average. The major exception was St. Joseph County, which experienced an economic decline that foreshadowed what the rest of the state would go through 15 years later.

With the closing of the Studebaker plant in the mid-1960s, St. Joseph County saw its population growth rate drop by 80 percent. This, in addition to a slowdown in the rural depopulation in the southern half of the state, caused the population center to move south for the first time in the state's history. The 1970 center of state population was just inside Boone County, west of Sheridan.

The decline of heavy industry in other parts of northern Indiana continued the southern movement of the population center in the 1970s. By 1980, the center was located on the Boone-Hamilton county line east of Big Springs. As Indiana began to experience net out-migration, the northern counties became sending areas instead of the receiving areas they had been prior to 1960. With the baby boomers reaching the age when people traditionally migrate (18-24), this trend accelerated as the 1970s wore on. At the same time, there was a minor resurgence of growth in the southern part of the state. Although this "Rural Renaissance" was very small compared to that in other areas of the country, it was enough to help bring the population center a little farther south.

In the early 1980s the bottom dropped out of Indiana's heavy manufacturing economy. This, along with the peak of the baby boom reaching the 18-24 age bracket, resulted in the state experiencing unprecedented levels of out-migration. Whereas the major question of earlier years was, "Who gained the most people?" in the 1980s it became, "Who lost the fewest people?" Most counties in the state showed net out-migration for the decade.

Consequently, the counties that were most affected by this out-migration (Lake, LaPorte, Allen, Delaware, Howard, Grant, and Cass) would also have the greatest effect on the population center. Since all of these counties are in the northern part of the state, the population center moved south again.

However, the center also moved east. This was due to the fact that the population loss in Lake County was much higher than in any other part of the state. The county that was responsible for the center's movement north and west early in the century was thus also responsible for the center's movement back to the south and east.

A final factor affecting the center's movement in the 1980s was the growth rate of metropolitan Indianapolis. Because more than 20% of the state's population lives in the metro Indianapolis area, the center of the state has always exacted a strong influence on the population center's movement. This is augmented by the fact that the central region has had the highest growth rate in the state. So while the north was losing its "pull" effects on the center of population, the central part of the state was exhibiting a stronger influence.

Connecting the dots representing the 10 centers of population reveals roughly a figure-eight pattern. While the basic movement is north and south, there is also movement east and west during alternate periods in Indiana history. This provides a graphic representation of which areas of the state are growing and declining, as well as the timing of the changes.

The future movement of the Indiana center of population will undoubtedly be in a southerly direction. In fact, if current trends continue, the center at the year 2000 should be in north-central Marion County—very close to where it was in 1900. Thus, in the span of one century, Indiana's population distribution will have undergone a dramatic transition, shaped by a 60-year expansion in the northern tier of the state followed by a 40-year decline in the same area.

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The Indiana Enterprise File Project

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About once a week the Indiana Business Research Center (IBRC) receives a call asking for information about Indiana companies. These calls come from such people as corporate marketers, economists, location specialists, private consultants, and aspiring entrepreneurs, as well as the Department of Commerce, Governor's and Lieutenant Governor's offices, State Board of Health, and Legislative Services. The two groups state their objectives differently. The private sector says, "We're evaluating marketing strategy . . ." or "We're considering opening a new branch/warehouse/plant . . ." or "I'm thinking about starting a new business. . . ." The public sector says, "We're conducting a program evaluation . . ." or "We're analyzing the potential effect of proposed legislation . . ." or "We need to survey Indiana companies that . . ."

However, questions from both sectors fall into two general categories: "How can I get a list of" questions and "How many" questions. The questions are the same, with a few characteristics that vary. These are size, geographic location, industry, age, and change over time. Examples include:

- How can I get a list of small to medium-sized companies in the Indianapolis metro area that have grown by at least 25% in the past two years?
- How many new companies were formed in Indiana this year and what is their total employment?
- How can I get a list of automotive parts manufacturers in Northwest Indiana?
- How many people are employed in downtown areas with Main Street programs and how has that changed in the past five years?

Those in need of a list are referred to companies that specialize in generating lists for marketing purposes or to the few libraries that provide some information on CD/ROM. If the variables are sufficiently broad, the "how many" questions can be answered by public information released by state or federal agencies. The IBRC maintains a data base that contains (among other things) a time series of annual payroll, employment, and number of establishments at the state or county level. Each of these geographic areas can be further broken down by industry division. However, if the variables are defined more narrowly—for instance, if the geographic variable is a city or enterprise zone or the industry variable is grocery stores or shoe manufacturers—we have been unable to answer the question.

In 1987 the Indiana Economic Development Council asked the IBRC to investigate the need for company-specific information by agencies seeking to improve the state's economy. During the 1980s several new agencies and programs had been formed to support Indiana's economic development, and considerable effort and money were being spent—often in duplicative projects—to get information about individual firms in the state.

We conducted interviews with economic development organizations at the state, regional, and local levels. We found that those who seek to help the economies of their respective communities try to aid entrepreneurs, retain existing businesses, and support business expansion. To evaluate programs geared toward entrepreneurs, economic developers need information on new business formations. To evaluate retention efforts, they must know how many companies go out of business. To evaluate expansion efforts, they must know the number of expanding companies and the rate of expansion. Yet currently the only available measures of success are total wages and employment within the county. Whereas increasing employment is the objective of economic development efforts, the ability to evaluate the individual strategies and programs used in the effort is critical. Essentially, the economic developers we interviewed were seeking a method of evaluating and quantifying the vitality and diversity of business activity in their communities.

Simultaneously, we conducted interviews with private vendors and state agencies that collect company-specific information to determine the utility and availability of such information. It became clear that the State of Indiana, through the Indiana Department of Employment and Training Services (IDETS), already collects information that could be used to answer many of the needs expressed by the economic developers we interviewed.

Among other things, IDETS collects unemployment taxes and disperses unemployment benefits when owed. As such, it collects information about companies, known as employing units, and their individual employees. An employing unit is the entity liable for payment of taxes. An establishment, on the other hand, is the discreet operating unit. Therefore, an employing unit may have several establishments throughout the state, and separate establishments may operate in different Standard Industrial Classification (SIC) categories. As such, the tax records alone do not necessarily reflect employment by county or by SIC code.

To create a clearer picture at the county and industry levels, the U.S. Bureau of Labor Statistics funds state "Employment Security" agencies to "itemize" multi-establishment units to reflect the number of employees, total wages, and SIC code of the county level organization. The resulting computer file, known as ES202, is produced quarterly, sent to the Bureau of Labor Statistics (BLS), and a copy is kept in-state for eight quarters.

There are two significant barriers to the use of this information. The first is technical: the data are not

SIC Codes

The Standard Industrial Classification (SIC) is a coding system published by the U.S. Office of Management and Budget and used to classify establishments by industry of operations. An SIC Code is made up of four digits. The first digit identifies the industry division—for example, mining, construction, or manufacturing. The combination of the first two digits identifies a major group—coal mining, building construction, or transportation equipment manufacturing. The combination of the first three digits identifies an industry group—bituminous coal and lignite mining, residential building construction, or aircraft and parts manufacturing. Finally, all four digits identify the industry—underground mining of bituminous coal, single-family housing construction, or aircraft manufacturing. Simply put, each additional digit provides a greater level of detail.

stored or organized to meet the needs of the economic development community. The second is legal: the information is considered confidential by state and federal law.

Technical Barriers

The organization of ES202 files makes analysis over time very difficult. It is as if each establishment has a file folder for the quarter, and all file folders for that quarter are stored in one file cabinet. To get a historical picture of any given establishment, one would have to pull its folder from each of eight cabinets. Additionally, an eight-quarter view does not provide enough history for many applications. Five years of data are frequently requested. If the data were kept for five years, 20 file cabinets would have to be searched.

Legal Barriers

These data are considered confidential by state law. Specifically, the law states that this information "shall not be published nor be open to public inspection, in any manner, revealing the individual's or the employing unit's identity. . . ." In practice, this means that aggregate figures must be based on at least three establishments in which no individual establishment comprises more than 80% of the total.

There is good cause for the confidentiality clauses surrounding the *public* release of such information on privately held firms. The law establishes that ES202 data may be accessed by other state agencies. However, the law does not clearly address uses that may be made once the data are accessed. Therefore, assurances of confidentiality have also restricted the flow of information to those responsible for public policy decisions.

Opportunities at Greater Levels of Disaggregation

We remained convinced that the data could be organized and manipulated to yield a better picture of the dynamics and diversity of the Indiana economy, even within the confidentiality restrictions. Since there is a record for every employer in the state, the ES202 data set is quite large. We needed to work with a subset of the file to prove our contention. We chose to work with data on establishments in Grant County. In this article we present examples that conform to confidentiality restrictions but are nonetheless at a level of detail that is not currently available. These sample situations would gain in value if compared to the state or other similar counties and if more than eight quarters of activity were available for analysis.

By SIC Code

One of our objectives for the pilot project was to identify growth industries in Grant County. Our first job was to determine the growth parameter—employment, payroll, or number of establishments. We chose change in wages, adjusted for inflation, as the most relevant measure of growth. The second task was to determine the appropriate industry level. ES202 records contain four-digit SIC codes; however, we decided to begin with a broader look, using the first two digits of the SIC code, and then focus on areas of interest. Using these parameters, we identified the 15 industries in Grant County demonstrating greatest growth from third quarter 1987 to third quarter 1988 (shown in **Table 1**).

At this point, we began to wonder about the underlying components of this growth. For instance, are all three-digit SICs within the broad two-digit classification growing? As can be seen in **Table 2**, movement at the three-digit level is not always in the same direction as at the two-digit level. Business services is a good case in point. Overall, business services grew 18.3%. Service to dwellings, which includes pest control and janitorial services, showed the greatest percentage increase (78.2%); computer-related services had the greatest dollar increase ($91,299) in the cat-

Table 1

Rank	*SIC Description*	*SIC Code*	*Difference in Real Wages (1982 Base)*	*Percent Change*
1	Undisclosed due to confidentiality restrictions			41.2
2	Fabricated metal products	34	$1,386,953	3.9
3	Educational services	82	1,250,331	16.2
4	Health services	80	706,193	4.7
5	Executive/Legislative/General	91	491,643	25.8
6	Auto dealers, service stations	55	314,405	12.7
7	Paper & allied products	26	262,126	6.4
8	Trucking & warehouses	42	260,162	11.0
9	Industrial machinery & equipment	35	227,259	20.4
10	Rubber & miscellaneous plastic products	30	226,291	6.6
11	Wholesale trade durable goods	50	189,295	14.6
12	Transportation equipment	37	187,116	3.7
13	Business services	73	179,043	18.3
14	Depository institutions	60	160,760	9.9
15	Special trade contractors	17	157,246	8.4

Table 2

SIC Description	*SIC Code*	*Diffs. in Real Wages*	*% Change*
Business Services	73	$179,043	18.3
Credit Reporting, Collection	732	1,386	3.7
Service to Dwellings	734	67,156	78.2
Misc. Equip. Rental & Leasing	735	(1,700)	-2.3
Computer Related Services	737	91,299	21.1
Misc. Business Services	738	11,382	4.2
Non-Disclosed		9,520	12.8

SIC Description	SIC Code	Entry	Increase	Decrease	Exit
Business Services	73	4	21	8	5
Credit Reporting, Collection	732		3	1	
Service to Dwellings	734	1	3	2	
Misc. Equip Rental & Leasing	735		3	1	
Computer-related Services	737	2	4	1	1
Misc. Business Services	738	1	7	2	2
Non-Disclosed			1	1	2

Employment Range	3rd Quarter 1987 # Units	# Emps	Total Wages	3rd Quarter 1988 # Units	# Emps	Total Wages
0	23	0	$82,799	30	0	$254,790
1-9	948	3,509	10,754,511	937	3,378	10,799,938
10-19	185	2,510	8,538,745	197	2,623	9,853,561
20-49	107	3,329	11,694,966	109	3,318	12,063,960
50-99	39	2,592	8,379,793	46	2,991	10,268,971
100-249	26	4,231	18,488,035	29	4,574	21,748,051
250-499	8	2,697	11,307,606	7	2,427	10,982,160
500+	8	10,407	80,319,020	8	11,119	91,792,090
TOTAL	1,344	29,275	$149,565,475	1,363	30,430	$167,763,521

Employment Range	ESTABLISHMENTS % Change	# Change	EMPLOYMENT % Change	# Change	WAGES % Change	# Change
0	30.43%	7	N/A	N/A	207.72%	$171,991
1-9	-1.16%	-11	-3.73%	(131)	0.42%	45,427
10-19	6.49%	12	4.50%	113	15.40%	1,314,816
20-49	1.87%	2	-0.33%	(11)	3.16%	368,994
50-99	17.95%	7	15.39%	399	22.54%	1,889,178
100-249	11.54%	3	8.11%	343	17.63%	3,260,016
250-499	-12.50%	-1	-10.01%	(270)	-2.88%	(325,446)
500+	0.00%	0	6.84%	712	14.28%	11,473,070
TOTAL	1.41%	19	3.95%	1,155	12.17%	$18,198,046

FROM \ TO	Not Existing	0	1 to 9	10 to 19	20 to 49	50 to 99	100 to 249	250 to 499	500+	Total 3.87
Not Existing		7	97	12	5	2	1		1	**(+125)**
0	11	4	8							23
1 to 9	81	19	807	40	1					948
10 to 19	7		23	135	19	1				185
20 to 49	3		1	10	81	12				107
50 to 99	3		1		3	29	3			39
100 to 249						2	24			26
250 to 499							1	7		8
500+	1								7	8
TOTAL 3.88	**(-106)**	30	937	197	109	46	29	7	8	

egory. Simultaneously, however, equipment rental and leasing showed a decrease in real wages from one year to the next. Percent changes at the four-digit level were even more dramatic, varying from +87.6% to -100%.

Now one may ask, "Where did the growth occur? Was it in existing firms or can it be attributed to new companies?" With access to establishment records, we can count the numbers of records that are entering or exiting from the previous period—or increasing or decreasing in employment. This kind of expansion has been done for business services and is presented in **Table 3**. It is interesting to note that the stellar performers, service to dwellings and computer-related services, have a net gain (entries minus exits) of one new firm each. The others either remained the same or lost establishments.

By Employment Range

Working with establishment-specific records, similar tabulations of the direction of growth (decline) can be done by employment range. We began by summing the number of reporting units (establishments), employees, and quarterly nominal wages[1] (**Table 4**). We then computed the change in each of these elements from one year to the next (**Table 5**).

However, these calculations alone gave limited information. For instance, we note a net gain of seven establishments in employment range 50-99. Are these new businesses, or did they move into the 50-99 range from some other category? If the latter, did they "grow" or "shrink" to the new category? So again we sought to determine the components of the change. These tabulations are presented in **Table 6**.

We can see from this that the net gain in 50-99 is composed of the following:

Entry (in 2nd period/not 1st)	+2
Growing from 50-99 to another range	-3
Growing to 50-99 from another range	+13
Shrinking to 50-99 from another range	+2
Shrinking from 50-99 to another range	-4
Exit (in 1st period/not 2nd)	-3
NET CHANGE	+7

Note the totals for the row and column in Table 6 headed "not existing." These totals appear in bold and in parentheses. The row total, +125, is the number of records that appeared in third quarter 1988 but not in 1987. The column total, -106, is the number of records that appeared in third quarter 1987 but not in 1988. One may be tempted to identify these as 125 new establishments and 106 establishments that went out of business. This identification would be inaccurate, because these entry/exit movements may only reflect a change in ownership. Without clear prede-

cessor/successor identification, the net change of +19 is the only relevant figure.

Limitations and Caveats

ES202 files are a rich source of time series information on Indiana establishments. Although we believe this source to be the most accurate and useful for our stated purposes, there are significant limitations as well.

First, as indicated above, there is no indication of predecessor/successor relationship in cases of change in ownership. In some cases, a purchaser of an existing business will assume the existing employment security account. In other cases, the purchaser may opt to open a new account. In the latter case, a new account number would appear in the file and the old account number would become inactive. Obviously this affects our ability to identify entries and exits, since an account change could appear as one entry and one exit. Therefore, net change in number of establishments is relevant, but counts of entries and exits are not.

Second, the address is not available on all records. When it is, it is a mailing address for the person who fills out the report, not necessarily the location address. We were able to identify that 33% of the Grant County records either had no address, only a P.O. Box, or a mailing address that is out of the county. This figure does not account for mailing addresses that may be administrative offices of multi-operating units in the same county. This finding severely limits the ability to use the data to facilitate planning or program evaluation in sub-county areas.

Each of these limitations is surmountable. In fact, the BLS recognized the need to overcome these deficiencies several years ago. The BLS launched an initiative to identify the deficiencies and opportunities, define necessary procedures and forms, and implement the subsequent recommendations. This effort is known as the Business Establishment List (BEL) project. In 1990, the BLS provided seed money to state employment agencies to begin implementation. To date, Indiana is one of the few states that have not started work on BEL implementation. Efforts are under way to correct this in the upcoming legislative session.

One final caveat is noteworthy. Total wages and number of employees are not in the same time window. Wages are continuous and cumulative throughout the quarter; total employment is defined as the number of employees in the week that includes the 12th of the middle month of the quarter. Therefore, an establishment can have positive wages but no employees. Under such circumstances, a wage per employee calculation is meaningless.

The preceding examples have illustrated ways in which we can count companies and the data associated with them. It is important to remember that one of the most critical needs is to generate lists of companies based on industry, employment, or geographic criteria.

If the state-held IDETS data could be used to make these identifications, we could reduce costs associated with acquiring proprietary marketing lists. Additionally, this data could be used to generate lists based on a parameter not available through providers of marketing information—growth in employment or payroll. This capability would allow company surveys to be linked back to historical growth data and serve as a significant program evaluation and needs analysis tool.

These examples were intended to illustrate a few of the ways in which company-specific data can be used to give a clearer picture of Indiana business patterns and support public policy decision making. Additionally, we hope the examples have served to trigger ideas for other uses. The State of Indiana owns a valuable asset that is not being optimally utilized. However, before embarking on an effort to design systems to achieve any or all of these uses, it is critical to address the questions regarding legal use. Once these questions are answered, systems can be designed to protect confidentiality while allowing flexible data access for legal uses by authorized users.

1. Please note that in this example we did not adjust for inflation, as we did in the previous example.

Market Research: Students Helping Business

When a new international joint venture was considering how to direct its U.S. sales efforts, it turned to five Indiana University graduate business students for marketing expertise.

The company, TBO-Paden International of Hope, Indiana, wanted assistance in identifying possible markets for its materials handling equipment; IU Master of Business Administration students Julia Bernhardt, Martha Boston, Julia Gray, Shailendra Kuman, and Gert Van de Paul wanted experience and a good grade in class; Bartholomew County economic development officials, who helped bring the company and students together for a marketing class project, welcomed the help for its efforts to provide ongoing assistance to local industry.

"A lot of these small companies have technical expertise or the access to that expertise, but many of them need market research or help in developing a marketing strategy," said Brooke Tuttle, president of the Columbus Economic Development Board. "What you get is a win-win situation, where the companies will get the marketing assistance and support in a cost-effective manner, and the students get experience working in a consulting relationship in a real world, live situation," added Tuttle, who received an MBA from IU in 1964.

Since the mid-1970s, hundreds of IU MBA students have quietly consulted with more than 100 Indiana and U.S. companies on problems ranging from whether to establish new locations to the introduction of new products.

The marketing courses take many students off campus and around the state. Rather than bury themselves in books and papers, they apply textbook knowledge as they are placed inside decision-making processes at companies as large as Procter and Gamble and DowBrands Inc. or as small as Naptown Brewers, an Indianapolis microbrewery.

And the experiences are as varied as one could imagine:

- Fifty students in a product development class formed teams to develop new product concepts for DowBrands companies. Ten of their 15 reports were endorsed by the company for further study and potential marketing. Two IU alumni in the company team worked with the students.
- A Knox County public hospital received assistance in surveying local business and industry about their health care needs and programming. Based on the students' suggestions, the hospital decided what programs and initiatives to pursue.
- A Northeast Indiana medical implant company used student research to determine the value of broadening its marketing efforts.

Donald H. Granbois, chairperson and professor of marketing, said the projects help make the subject matter more relevant to students. "A substantial percentage of our students have previous business experience. This helps them to tie what they're learning in the course back to the prior experience," Granbois said. "If these were textbook courses, for people with work experience, it would seem remote and too abstract."

David B. MacKay, IU professor of marketing and geography and one of three instructors of M503, Marketing Research, agrees. "My course is structured so that the different aspects being taught correspond with the stages that students are at in their relationships with their clients," MacKay said.

For example, MacKay said he lectures on questionnaire design at the point in the semester when his students are putting one together for their clients. "It becomes something that is not an abstract list of rules to remember, but they have an immediate application," MacKay said. "Hopefully, they will be relating everything to the problem they have and it becomes much more vivid."

Gregory C. Willman, a DowBrands new product development business analyst and a 1990 IU MBA graduate, affirms this view: "It's very important to the student that it [the experience] verifies that what they are doing in class is extremely relevant to what they're going to encounter once they enter the workforce."

When the course was first taught, the dilemmas marketing research students faced appeared realistic but were merely hypothetical. Gradually, faculty decided to encourage students to work with Bloomington-area companies. Still, their consulting activities only accounted for 25 percent of the final grade.

Since then, "the course has really evolved from what was largely a textbook course into a course where half of the experience is dealing with clients," MacKay said. "That's the part of the course that the students remember. They don't remember at all what they get in lecture, but they do remember the experiences they have working with the clients."

Granbois said he and other marketing faculty soon recognized the value of first-hand experience on their students' coursework, and decided to boost its level of importance. "It really gets people involved in the managerial consequences throughout (the process), and that's what I think really makes the difference," Granbois said. "Besides learning how research fits in, they really get some other skills out of doing the projects as well."

For the client company, the service is also a good deal. It merely has to "cheerfully" pay all reasonable expenses—far less than fees charged by most consultants today.

"The best projects are the ones where management heavily invests themselves along with the stu-

Three MBA students board a plane to work with DePuy Corp. of Warsaw, Indiana. The students are, from left to right: Harold Colby, of Grosse Pointe, Michigan; Ray Witt, of Rockville, Maryland; and Robert Whiting, of Winston-Salem, North Carolina.

dents," MacKay said. "For the best results, companies need to be willing to provide the necessary resources, particularly time and effort. "The students solve managerial problems. They are not data collectors."

Dr. Maury Kulwin, director of marketing at Good Samaritan Hospital in Vincennes, agreed, saying, "The institution gets very professional work done at minimal cost, while the students get real-life experience doing real-life work with real-life results."

Good Samaritan asked four students to survey businesses in its market area and determine the extent to which the firms and their employees used its facilities. The hospital used the findings to learn where it was not meeting local needs and whether companies would be amenable to new programs, such as smoking cessation, weight loss, and workplace safety.

"Instead of us cold-calling companies, it's more effective to understand—prior to meeting with directors or vice presidents of human resources—what, if any, interests exist and, more specifically, what programs they're most interested in," Kulwin said. "The students to me represent a consulting firm. If I didn't believe in their competency . . . I wouldn't be engaging them."

Warsaw-based DePuy Corp., an international medical implant maker, had been successful in reaching doctors about its product line but wondered whether it could broaden its marketing efforts by targeting hospital purchasing agents. Enter students Harold Colby, Robert Whitling, and Ray Witt, who designed a questionnaire to determine the influence of purchasing agents.

They found that although not many in their target group were involved in buying decisions, many would have a greater voice as in-house consultants in coming years. As a result of the study, DePuy will use focus groups to consult with purchasing agents on a more direct basis, thus laying a groundwork for the future.

"We've already conducted the focus groups with purchasing agents and we also expanded our focus based on what they told us through their research," said Shirley Engelhardt, director of market research and strategic services for DePuy. "What we're trying to do is establish a win-win relationship with everyone in the hospital and these guys helped us realize that," she said. "They helped us look at another side of the story. The more we understand our different segments, the better off we're going to be." Without the students' aid, the company likely would have done the study on its own, but at a much higher cost.

"In some ways it might have been of a little better quality because our grade was dependent on it," said Colby. "That forced us to get into the project. But once we did get going on it, everyone in the group became almost obsessed with it, in terms of wanting to get it done and not dropping the ball at the end.

"It forced us to take the textbook knowledge and apply it to a real world situation. Essentially every lecture in the class was related directly to one aspect of the project, and it really enhanced the learning process," he said. "You really got and had a chance to apply those theories."

Marketing professor Thomas P. Hustad, who has coordinated numerous development projects with students and companies since coming to IU in 1977, sees another, long-term benefit.

"One challenge facing organizations is understanding how to cope with the increasing diversity of their served markets. Since all managers regularly work together, it is important that they extend their vision of relevant opportunities," Hustad said. "Dealing with 50 MBA students automatically ensures diversity thinking.

"At its best, this process challenges conventional opinions by injecting various insights from students, who come from all parts of the United States, Europe, Latin America, and Asia," he continued. "It allows local business to capitalize on the international composition of our students, while simultaneously giving the students the exposure to the hard edge of profit-oriented decision making in a corporate world."

DePuy's Englehardt adds, "It shows us what kind of talent lies ahead for the marketplace. . . . These people are an untapped resource."

Indiana's Changing Population: A Graphic Overview

Indiana ranked 38th in the nation with a population growth rate of just 1.0 percent from 1980 to 1990 (see **Figure 1**). The 50 states together grew by 9.8%. Nevada led the nation with a 50.2% increase, while four states declined during the decade. Each of Indiana's four neighboring states grew even less rapidly than did the Hoosier state.

Since the addition of more than 727,000 persons in the 1950s, Indiana's population growth has moderated sharply. In the 1980s, the state grew by less than 54,000 persons (see **Figure 2**). This is the least amount of growth the state has experienced in this century. The fall-off in growth of the Hoosier state is much more severe than the decline of growth nationally (see Figure 2). For the past three decades the nation has added between 22 and 24 million persons, following the 28 million increase in the 1950s.

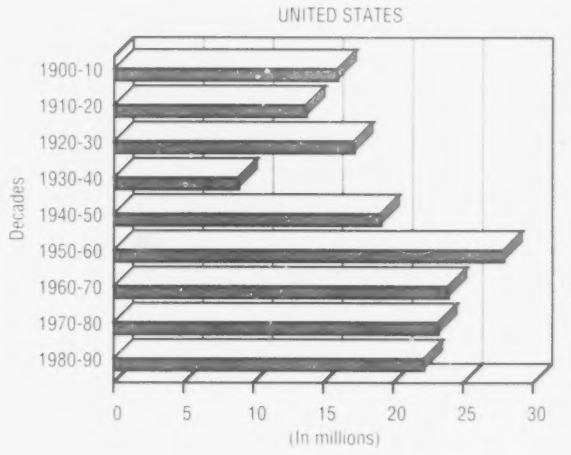
Hamilton County led the state with a 32.8% growth of population from 1980 to 1990 (see **Figure 3**). Seven other Hoosier counties exceeded the national rate of population growth (9.8%). The northeastern counties, suburban Indianapolis, and suburban Cincinnati led the way. In all, 43 counties grew during the decade of the 1980s.

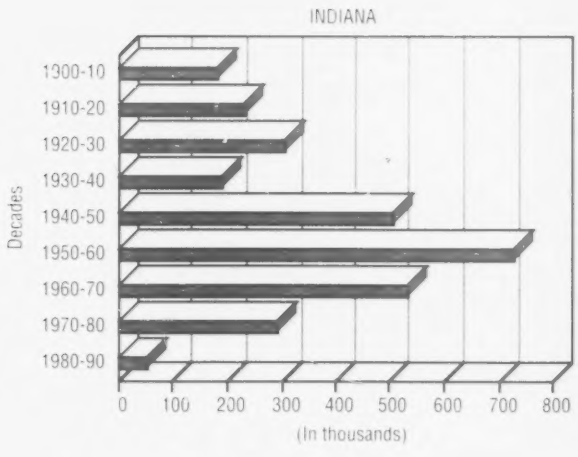
The majority (49 of 92) of Hoosier counties lost population from 1980 to 1990 (see **Figure 4**). Generally, all counties on the western border and in a broad sweep from Hammond to Richmond saw declines. Sullivan County had the sharpest fall at 10%, with Blackford, Randolph, Henry, and Lake just behind (losses over 9%).

Only 41 of the state's 92 counties grew in both the 1970s and the 1980s (see **Figure 5**). All but one of these 41 counties had less absolute growth in numbers during the 1980s than they had in the 1970s. The two-decade growth leader was Hamilton County, which added nearly 27,500 in the 1970s and another 26,900 in the 1980s. Porter County, after

Figure 1
Percent Change in Population, 1980-1990

Figure 2
Population History, Number Change Between Decades





posting a state-leading 32,700 growth in the 1970s, fell off to an addition of just 9,100 in the 1980s. The exceptional county was Elkhart, which alone among the counties growing in both periods added more to its numbers in the 1980s (18,900) than it did in the 1970s (10,800).

In 24 counties, the growth of the 1970s exceeded the decline of the 1980s sufficiently to leave a net increase for the two decades together. For example, Jasper County added 5,700 in the 1970s and lost nearly 1,200 in the 1980s, ending with a net increase of 4,500 for the 20-year period.

Two counties posted dramatic positive turnarounds. Marion and St. Joseph had both lost population in the 1970s. In the 1980s these two counties experienced growing populations that offset the earlier declines, so in 1990 their totals were greater than they had been in 1970.

Fifteen Indiana counties posted declines in the 1980s that wiped out the gains in population made in those counties during the 1970s. Howard County, for example, lost nearly 6,100 persons in the 1980s after gaining 3,700 in the 1970s—a net loss of nearly 2,400.

Ten Hoosier counties continued to lose population in the 1980s, just as they did in the 1970s. Of these, all but Benton lost more people in the 1980s than in the 1970s. For example, Lake County's loss grew from 23,300 in the 1970s to 47,400 in the 1980s.

In sum, only three Indiana counties (Elkhart, Marion, and St. Joseph) saw more population growth in the 1980s than they experienced in the 1970s. For the rest of the state, the 1980s were a period of reduced growth or decline in population.

Figure 3
Counties with Increasing Population
Percent Change 1980 to 1990

Figure 4
Counties with Decreasing Population
Percent Change 1980 to 1990

Figure 5
Change in Population
Comparison of the 1970s with the 1980s

Growing Counties
Growth in both periods
Growth in 70s > Decline in 80s
Decline in 70s < Growth in 80s
Declining Counties
Decline in both periods
Growth in 70s < Decline in 80s

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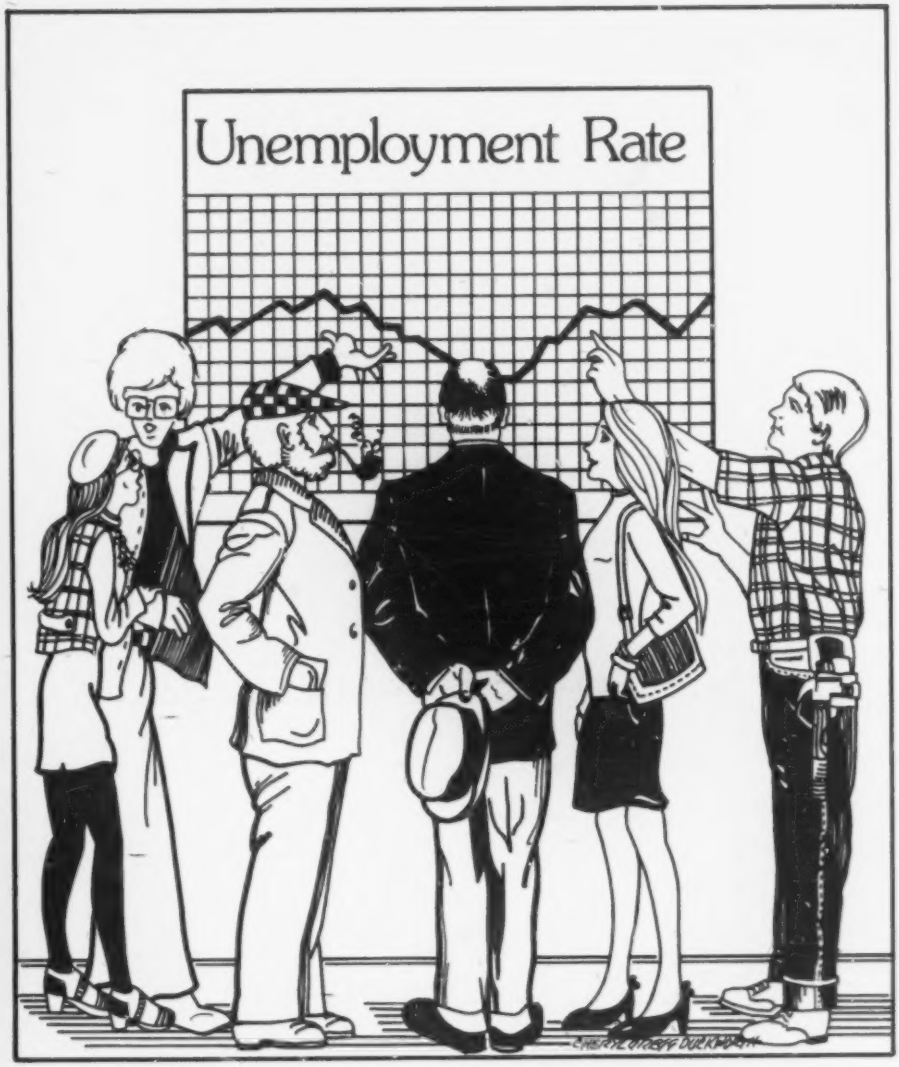

Behind the Unemployment Rates

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Behind the Unemployment Rates

Morton J. Marcus

Director, Indiana Business Research Center

Every month the economic news includes the latest release of unemployment rate information. These data are provided for each Indiana county by the Indiana Department of Employment and Training Services (IDETS) and for each state by the U.S. Department of Labor (DoL). As a nation we have an intuitive response to these numbers: Higher unemployment rates are bad, lower rates are good. Television news anchors have learned to smile when the numbers go down and frown with concern when the numbers rise.

Unemployment rate numbers are unambiguous as far as most of us are concerned. An increase in the unemployment rate indicates . . . what? Does it tell us that more people are unemployed, walking the streets in black-and-white photographs from the 1930s, looking for jobs, struggling with a sense of despair, hope evaporating, life itself becoming tenuous? Does a decline in the unemployment rate mean that more people are working, factory whistles are heard again in the early morning hours, lunch buckets are being filled in homes where the light bill has been paid, and Gramps can now have that operation?

These are the images, the TV concepts that correspond to the monthly announcements. Unfortunately, they may have nothing to do with reality.

The unemployment rate is a ratio. It is the number of persons believed to be unemployed and seeking employment divided by the number of persons believed to be in the labor force in a given city, county, state, or country. The labor force is the sum of the number of persons believed to be unemployed plus the number of persons believed to be employed.

It may be noted that these numbers are beliefs. IDETS and DoL go about determining them through surveys, estimates, and statistical procedures too complex to go into here. Let us, for the sake of this article, assume that the procedures are perfect. It is a harmless fantasy already accepted by virtually every American politician who is ready to offer a vocal but nonetheless visceral response to the numbers.

What happens when the unemployment rate rises? Let's begin each case below from a base position of 5% unemployment—five persons unemployed and seeking employment plus 95 persons at work—a 5% unemployment rate (5/(5+95)).

Case I. Normally our imagination is set in motion this way. We think of a person holding a job; then one day a pink slip is handed out with the paycheck. A person who had a job is now without one. The numerator of our ratio goes up, the denominator remains unchanged, so the unemployment rate rises.

Thus, with our friend getting a pink slip, we have six unemployed persons, but no change in the labor force; the unemployment rate is then 6% (6/(6+94)). That is the standard scenario.

But it could happen this way:

Case II. A person who had not been in the market for employment (a retired person, a homemaker, a student, or a person who just moved to this community) now seeks employment and does not find it. The number of unemployed persons rises (to 6) and the labor force rises (to 101) so the unemployment rate goes to 5.9% (6/(6+95)).

Note that no one has lost a job. The number of persons employed remains the same. But the unemployment rate has risen. Are the social and economic implications equal? That cannot be determined without much more information, but the question is worth asking.

There is another way, however, for the unemployment rate to rise.

Case III. Someone who was working yesterday decides to retire today. He is not replaced (as in the case of a self-employed person). No one has lost a job. The number of workers has declined and the number of unemployed persons remains unchanged. We still have 5 people looking for work, but there are only 94 persons now working. Hence the labor force has shrunk and the unemployment rate has gone up to 5.1% (5/(5+94)).

Is society worse off? There is less output in the marketplace, but there may be more production out of the marketplace (volunteer work, at-home production) or more valuable leisure. Should we grimace at the news that the unemployment rate has risen?

On the downside there are similar cases.

Case IV. Starting from the same 5% rate, assume that one unemployed person gets a job. This is the standard, imagined case. The unemployment rate falls to 4% (4/(4+96)). Rejoice!

But now think of this:

Case V. An unemployed person decides to stop looking for a job. This person becomes a "discouraged worker." She retires, or just drops out to do her own thing outside the marketplace. Or the disenchanted, dispirited soul leaves town; this too would decrease the labor force. The unemployment rate declines in this case to just over 4% (4/(4+95)), but not everyone would agree that society is better off.

And for symmetry:

Case VI. A person who was making wonderful cupcakes as a hobby and distributing them to the local food bank for the needy decides to start selling them in the marketplace. It is possible that no more cupcakes will be produced than before and that only the wealthy will now purchase them. But the unemployment rate goes down and that means we are better off, even if the poor have fewer cupcakes. The number of persons unemployed remains the same (five), but the labor force rises by one to 101 so the unemployment rate is now 4.95% (5/(5+96)).

Thus we see that the rise or fall of the unemployment rate is ambiguous in its meaning and social significance. Now let's look at what has actually been happening in America and Indiana this past year. As these words are written the latest data refer to March, so we will use those numbers, recognizing that each month brings a new story.

Unemployment Rates in the Past Year Across the U.S.

From March 1990 to March 1991 the national unemployment rate rose from 5.4% to 7.1%. Six states (North Dakota, Wyoming, Utah, Arizona, Hawaii, and Louisiana) had declines in unemployment rates, but the other 44 states and the District of Columbia all had increasing rates (see **Figure 1**).

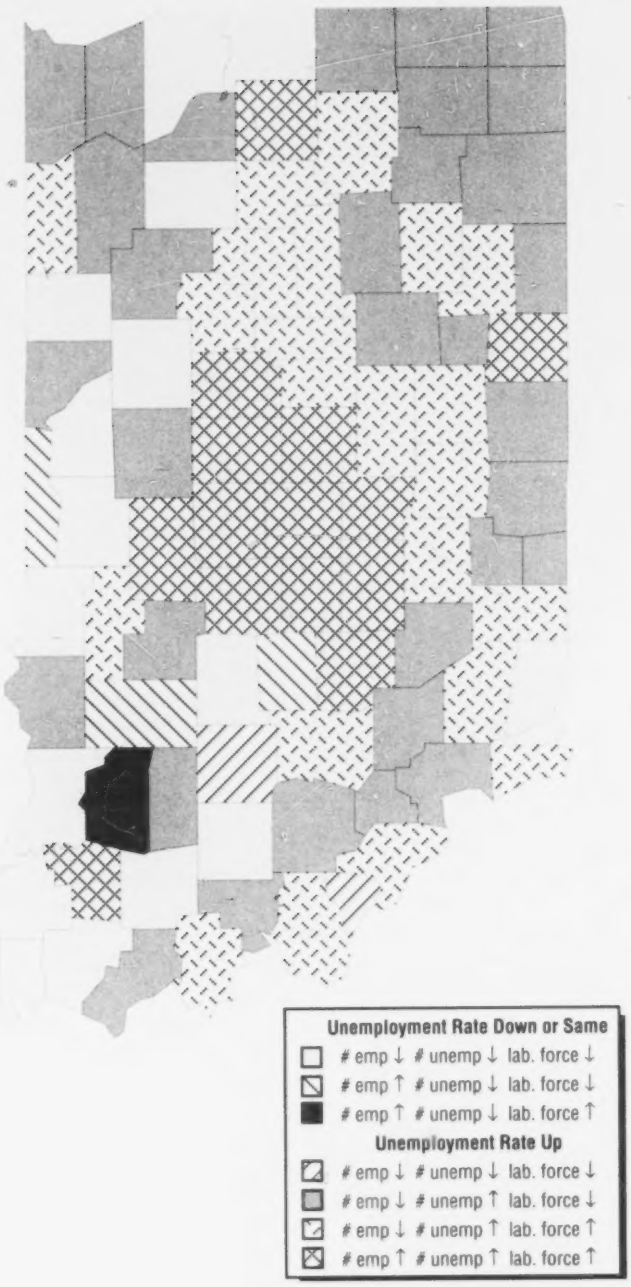
Nationally, the number of persons unemployed rose by 2,107,000 (31.5%). This was accompanied by a decrease of 1,453,000 in employment and a growth of 654,000 in the labor force. Since all these numbers must add up, the decline in employment and the growth in the labor force will be seen to equal the increase in unemployment. Only 17 of the 50 states followed this pattern. Indiana was one of them with a small (500-person) increase in the labor force and a 37,300 decline in employment, giving rise to an increase of 37,800 in the number unemployed.

What story can we tell about this pattern? We could say the decline in employment was so severe it caused people who were not in the labor force to enter the labor market looking for work. Alas, with hard times, they too fell into the vat of the unem-

Figure 1
Labor Force Components in U.S. Unemployment Rates: Changes from March 1990-March 1991

Unemployment Rate Down
emp ↓ # unemp ↓ lab. force ↓
emp ↑ # unemp ↓ lab. force ↑
emp ↑ # unemp ↑ lab. force ↑
Unemployment Rate Up
emp ↓ # unemp ↑ lab. force ↓
emp ↓ # unemp ↑ lab. force ↑
emp ↑ # unemp ↑ lab. force ↑

Figure 2
Labor Force Components in Indiana Unemployment Rates
Changes from March 1990-March 1991


Unemployment Rate Down or Same
emp ↓ # unemp ↓ lab. force ↓
emp ↑ # unemp ↓ lab. force ↓
emp ↑ # unemp ↓ lab. force ↑
Unemployment Rate Up
emp ↓ # unemp ↓ lab. force ↓
emp ↓ # unemp ↑ lab. force ↓
emp ↓ # unemp ↑ lab. force ↑
emp ↑ # unemp ↑ lab. force ↑

ployed. Drawn into the labor market to offset the family financial woes, these labor market entrants or reentrants were gobbled up by the prevailing unemployment.

This story makes good theater. Look at Florida for a great example. The labor force grows by 64,800, employment drops by 63,000; hence, more than half the increase in unemployment is composed of those entering the labor force.

But that story is good for only 17 states. There must be other stories as well. In 14 states, plus the District of Columbia, a far uglier story can be constructed. These states had increases in the number unemployed, with decreases in the number of employed and decreases in the labor force. Therefore, we can say (without foundation) that the loss of jobs was so traumatic that folks just dropped out of the labor force rather than beat their heads against the wall of unemployment. Perhaps they even moved out of state to look for El Dorado elsewhere.

Thirteen states had growth in both employment and the labor force. The sad story that leads to a rise in unemployment rate for these states is that the employment growth was not sufficient to accommodate the growth in the labor force. Hence the number of unemployed persons grew. For example, in Illinois the labor force growth was 92,200, but only 18,300 jobs were added. So we can say there was a marginal unemployment rate of 79% (the added number of unemployed persons divided by the addition to the labor force). Other stories can be told about the remaining states, but let's move on to Indiana.

Indiana's County Experience: March 1990 to March 1991

The statewide unemployment rate rose from 6% to 7.3%. However, 20 Indiana counties had unemployment rates in March 1991 that were less than their rates for March a year earlier. Two counties (Dubois and Vigo) were unchanged (see **Figure 2**).

Let's look at some of these stories. Howard County led the state in the rise of unemployment rate with a jump of 8%. Neighboring Tipton rose by 7.1% and Miami by 5.8%. They were among the 70 counties with higher rates in March 1991 than in March 1990. Dearborn County had the greatest decline (1.8%). Of the 70 counties with increased unemployment rates, 68 actually had an increase in the number unemployed, only 56 had a decline in employment, and 34 saw a decline in the labor force.

Of the 20 counties where the unemployment rate declined, employment grew in only four counties, but the labor force dropped in 18. To be specific: In Tippecanoe and LaPorte counties the number of persons in the labor force declined, the number employed declined, and the number unemployed declined. In each

Figure 3
Unemployment Rate Matrix

		In 1991		
		Employed	Unemployed	Not in labor force
In 1990	Employed			
	Unemployed			
	Not in labor force			

case the loss of jobs was more than offset by a decline in the labor force, leading to a drop in the unemployment rate. What can we see here? Did these two counties have massive out-migration in the past year?

In total, 54 of Indiana's 92 counties had labor force declines in the past year. This would suggest that significant numbers of persons were becoming discouraged about employment opportunities in the state. If they had stayed in the labor force, what would our unemployment rate have been?

Confusion Arising from Inadequate Data

From all these numbers we can learn that employment rose, or the number of persons in the labor force fell, or the number of persons unemployed changed. But these are aggregate changes about which we need to fabricate an approximation of reality. We do not know if the increase in the number of unemployed persons is the result of a decrease in employment. For example, consider Daviess County. Employment rose from March 1990 to March 1991 by 500 and the labor force rose by the same number. Hence, we can conclude, since we have no knowledge, that every new labor force entrant found a job, driving down the unemployment rate. The marginal unemployment rate was zero. What a triumph of economic development!

Another triumph was in Brown County. The number unemployed fell by 30 persons and the number employed rose by 30 persons. The labor force remained unchanged and the unemployment rate fell by one half of one percentage point.

But poor Spencer County tells a different story. Employment fell by 830 persons and 820 dropped out of the labor force. Only 10 of those 830 became unemployed. Can this actually be true?

It should be obvious that we do not know anything about the changes in employment status from these inadequate numbers. IDETS and DoL need to exploit and publicize other resources before we can tell stories or conduct useful analysis.

Labor force transition is the key information missing in today's economic development environment. What we have now are the absolute levels of employment and unemployment. From these data we construct net changes. That does not tell us about the transition, the gross flows that are more significant for analytic and policy purposes.

What we need to do is fill in the matrix shown in **Figure 3** for each county. We need to know how many of those unemployed in 1991 were employed last year. How many are still unemployed from a year ago? Are today's unemployed those who were not in the labor market a year ago? Clearly the policies to deal with unemployment will be different in each case. Previously employed persons have skills that can be sharpened or redirected. Long-term unemployed persons may need extensive counseling and significant skill augmentation. New entrants may only need a few pointers—or they may require a major orientation to the job market. But knowing only how many unemployed there are in a county is of limited use. The absence of transition data leaves us telling each other stories or giving quaint recitals about the data – as if we understood the underlying phenomena.

The unemployment data we use each month are weak. IDETS tells us not to take the county unemployment rates as economic indicators. That is like the weatherman telling you not to pay any attention to the thermometer. The methodological problems associated with the small area data are the result of extremely limited funding for a vital purpose. The U.S. Department of Labor has been starved for funds and IDETS has seen its basic statistical resources diminished steadily over time.

How can policymakers function without knowledge of the labor force? Easy, when they don't ask the right questions and when seeming to do something is more important than actually doing something.

"Labor force quality" and "readiness" have become catch phrases suggesting a concern for the conditions of labor. Many jobs are created to deal with problems about which little is known. If government and business leaders are sincere in this concern, let them invest effectively in labor market information. Let them support a base of data on which policy can be founded. Efforts in this direction over the past two decades have been unsuccessful. For a start, perhaps, let them provide each county with these transition matrices. Then we might actually know something about what is happening in our labor markets.

Economies of Scale in Indiana's Local Court System

Larry DeBoer

Associate Professor of Agricultural Economics, Purdue University

One of the primary functions of local government in Indiana is operating the system of local courts. Indiana's local courts disposed of 1.3 million cases in 1988, and state, county, and municipal governments spent $81 million on their operation. This article examines the determinants of local court operating costs, looking particularly at the effect of alternate forms of court organization on costs.

Two trends in Indiana court organization appear likely to affect operating costs. First, multi-county court districts were split into their component counties during the 1970s and 1980s. In 1970 there were eight two-county circuit courts; in 1988 only two remained. One of two joint county courts was dissolved in 1989. There is only one two-county superior court. Second, in 1975 the state legislature mandated that city and town courts be abolished, with their functions assigned to county courts. But this mandate was rescinded in the 1980s, and 73 city and town courts still exist. More may be established.

If courts are subject to economies of scale—meaning that the average cost per case declines as courts dispose of more cases—then moves to split multi-county courts and establish more city and town courts will increase the cost of disposing of state cases. But if courts are subject to diseconomies of scale, then moves toward smaller courts would decrease average costs per case and save money. While policymakers may consider many factors in decisions about court organization, certainly one must be the effect on costs. This article uses 1988 data on Indiana's local courts to estimate the effects of cases disposed and the number of courts in each county.

Organization of Local Courts in Indiana

There are four main classes of local courts in Indiana: circuit courts, superior courts, county courts, and city and town courts. The uses and functions of these courts vary by county. All counties are served by a circuit court, but only 53 have superior courts, and 40 have county courts. There are 49 city and 24 town courts in 40 counties. In 20 counties, circuit courts have special small claims and misdemeanor dockets; in the others, county or superior courts handle these cases. Marion County has a municipal court and small claims courts, and St. Joseph County has a probate court (Division of State Court Administration 1989; Indiana State Chamber of Commerce 1988).

Indiana is divided into 90 circuit courts with a judge in each circuit. Circuits generally follow county borders, but as of 1988 there were two joint county circuits, one including Dearborn and Ohio counties, and the other including Jefferson and Switzerland counties. As case loads have increased, joint county circuits have been split into single county circuits. Since 1970, six joint county circuits have been split into 12 single county circuits (Indiana State Chamber of Commerce 1970, 1980). Circuit courts are courts of general jurisdiction and have jurisdiction over appeals from city and town courts.

As of 1988, 129 superior court judges served in 53 Indiana counties. In some counties, several judges staff a single unified court; in others, each judge heads a court in a county system. There is one joint county superior court, serving Ohio and Switzerland counties. Superior court jurisdiction varies, but most are courts of general jurisdiction, with jurisdiction over city and town court appeals. Superior courts are created by the General Assembly to meet local needs.

In 1975 the General Assembly passed legislation creating county courts. Since then there have been efforts to restructure county courts into superior courts with small claims and misdemeanor divisions. As of 1988 there were 42 county courts, but four shared judges in joint county courts. The four were Fulton and Pulaski counties and Greene and Sullivan counties. In 1989 the Greene-Sullivan joint county court became two separate superior courts. County courts have jurisdiction over small civil and property cases, minor felonies, misdemeanors, and violations of local ordinances.

The 1975 local court reorganization legislation would have abolished city and town courts by the end of 1979 and assigned their functions to county courts. Amendments since then have permitted the continued existence of these courts. Currently, second- and third-class cities or towns may pass ordinances to establish city or town courts, and courts existing at the start of 1986 may continue to operate until abolished by local ordinance. City and town courts have jurisdiction over municipal ordinance violations, misdemeanors, and infractions.

Circuit, superior, and county courts are funded through county general fund appropriations. City and town courts are funded through municipal appropriations. The bulk of judges' salaries are paid by the state. In 1988 the state spent $15 million on local judges' salaries, counties spent $62 million on court operations, and municipalities spent $4 million on court operations. Courts generate revenue through fees, costs, and fines. In 1988 the state received $31 million, the counties received $31 million, and the cities and towns $5 million in court revenues. One of the attractions of establishing and retaining city and town courts is the revenue they earn (*Indianapolis Star* 1990).

A Cobb-Douglas Cost Function

A simple way to measure the determinants of costs is to estimate a Cobb-Douglas cost function (Wallis 1980).[1] In logarithmic form, the cost function is:

$$(1)\quad \log(COST) = a_0 + a_1\log(CASES) + a_2(WAGE1) + a_3\log(WAGE2) + a_4\log(PRICE) + a_5(COURTS).$$

where CASES is the number of cases processed by a county's courts; WAGE1 and WAGE2 are the wages paid to two classes of employees hired by the courts; PRICE is an index of the price of non-labor inputs purchased (supplies, capital); and COURTS is the number of courts within the county's borders.

Costs ought to be higher when more cases are processed, so a_1 is expected to be greater than zero. The coefficient a_1 shows *how much* more expensive it is to dispose of more cases, however, because it is a "cost-quantity elasticity," the percentage increase in costs caused by a 1% rise in cases processed. If a_1 is greater than one, a 1% increase in cases causes a more than 1% rise in costs, and the average cost per case rises as more cases are processed. This is known as "diseconomies of scale." It implies that courts disposing of a smaller number of cases are more efficient. If a_1 is positive but less than one, a 1% increase in cases causes a less than 1% rise in costs, and the average cost per case falls as more cases are processed. This is known as "economies of scale," and implies that courts disposing of a larger number of cases are more efficient. Clearly this coefficient will help answer one of the policy questions—whether it is more expensive to process cases in larger or smaller courts.

The coefficients on the wage and price variables should also be positive, because courts that must pay higher prices will find disposing of cases more costly. These variables are included to control for differing cost environments, to better isolate the influence of the number of cases disposed.

It is useful to add a variable not usually seen in Cobb-Douglas cost functions—COURTS, the number of courts in a county. Counties may have superior, circuit, county, city, and town courts within their borders. If the coefficient on COURTS is positive, then more courts increase costs; if it is negative, more courts decrease costs. The coefficient a_5 shows the percentage rise or fall in costs caused by the addition of one more court in a county. This coefficient will help answer another policy question—whether the addition of a town or city court to dispose of cases formerly handled by countywide courts increases or decreases costs.

A restriction is usually imposed on the Cobb-Douglas cost function estimates. Because the sum of payments to employees and purchases of non-labor inputs must equal total costs, equal percent rises in each of the prices will result in an identical percent rise in total costs. Unit changes in logarithms are equivalent to percentage changes. If each of the three log factor prices rises by one, for the log of costs to rise by one the coefficients on the factor prices must sum to one, $a_2+a_3+a_4=1$. Substituting $1-a_3-a_4$ for a_2 in equation (1) and rearranging terms yields the following equation:

$$(2)\quad \log(COST) - \log(WAGE1) = a_0 + a_1\log(CASES) + a_3(\log(WAGE2) - \log(WAGE1)) + a_4(\log(PRICE) - \log(WAGE1)) + a_5(COURTS)$$

This forces factor price coefficients to satisfy the summation requirement but changes little else: the coefficients still represent the same ideas. Coefficient a_2 is not explicitly estimated, but because $a_2=1-a_3-a_4$, it can easily be derived.

Data

Data on the Indiana court system are published in the *Indiana Judicial Report* by the Division of State Court Administration (1989). Total costs are measured as total expenditures by a county's courts on personnel, supplies, services, and capital outlays. This is the variable COST in the second equation above. Total county and municipal costs statewide amounted to just over $66 million in 1988. Of this total, $48.5 million went for salaried personnel, $7 million for non-salaried personnel, $1.5 million for supplies, $6.4 million for services, and $2.6 million for capital outlays.[2]

Total cases disposed of by a county's courts (CASES in the second equation) is a measure of court output. This is a good measure of the scale of the courts' operations—better than most public sector output measures—but of course it does not measure the quality of justice dispensed. Indiana courts disposed of 1.3 million cases in 1988, and county totals ranged from 702 in Switzerland to 273,000 in Marion. Cases disposed of include both criminal and civil trial cases and routine misdemeanor and traffic violations, many of which are processed without a court appearance. This helps account for the huge volume of cases disposed of in the state's largest counties.

Total costs will depend not only on the scale of a court system's operations, but also on the wages and prices the court must pay for personnel, supplies, and other inputs. Courts paying higher wages and prices will probably have higher total costs, all else equal. Statewide, salaried personnel costs made up 74% of total costs in 1988. Personnel included judges, court reporters, probation officers, bailiffs, administrators, secretaries, law clerks, court clerks, public defenders, and others. However, the reported numbers of employees in individual job titles are suspect, because county job descriptions do not necessarily follow the job titles in the *Report*. This may be especially true in small counties with few employees, where a single

employee may perform the duties of several job titles. The *Report* job title under which counties list these "jacks of all trades" may be arbitrary.

To address this problem, court employees are divided into two categories, primary and secondary. All 92 counties employ at least one judge, one court reporter, and one probation officer—the primary employees. Counties had 1,694 primary employees in 1988. Every county had at least one other employee, but none of these other job titles were represented in every county. These are secondary employees, since some counties operate their court systems without employees in these job titles. A total of 1,671 secondary employees were employed in 1988.

The *Report* lists total salaries paid to personnel by job title. County salary payments are summed by primary and secondary categories and divided by the number of employees in each category to get the average salary per employee. These variables are labeled WAGE1 and WAGE2 in the second equation. On average, statewide primary employees were paid $12,630, and secondary employees $9,317. The primary average wage is low even though the state's 361 relatively highly paid judges are included. This is because state funds are used to pay a minimum of 83% of each judge's salary, and the cost totals here include only county payments (Indiana State Chamber of Commerce 1988). Of total costs statewide, 40% go to primary employee salaries and 34% to secondary employee salaries.

Table 1
Local Court Regression Results

Dependent Variable	*I. All Counties (n=92)*	*II. Small Counties, Less than 10,000 Cases (n=63)*	*III. Large Counties, More than 10,000 Cases (n=29)*
log(COST)- log(CASES)	0.727* -16.35	0.486* -6.36	0.985* -9.46
log(WAGE2)- log(WAGE1)	0.142* -3.29	0.151* -3.81	0.024 -0.08
log(PRICE)- log(WAGE1)	0.682* -5.59	0.473* -3.85	1.147* -3.17
COURTS	0.036* -3.08	0.088* -3.06	0.007 -0.46
Constant (a_0)	3.199* -3.15	3.131* -3.18	5.183 -1.63
R^2	0.903	0.69	0.905
F	202.07	32.23	56.84

*Coefficient significantly different from zero at 5% confidence level. T-statistics in parentheses beneath coefficients.

Other costs make up the remainder. Included are payments to non-salaried personnel, including per diem payments for jurors, medical and psychiatric services, and pauper attorney fees, which comprise almost half of non-salaried personnel payments. Other expenses are supplies, services (including rentals, lodging, and meals for jurors), and capital outlays (including law books). Of the $17.5 million in other costs, 25% were on items with prices unlikely to vary by county, including supplies, law books, and other capital outlays. Twelve percent of other costs were items likely to vary with rental prices in each county, including the category called rentals, and lodging for jurors. Sixty-three percent of other costs were items with prices likely to vary with county service sector wages, including payments to non-salaried personnel.

Although total costs for the other cost category are known, there is no measure of input quantity akin to numbers of employees. To derive a price index for other costs, measures of wages and prices in each county are used, weighted by shares in other costs. The other cost price index is derived as follows:

(3) PRICE = (.25 x CONSTANT) + (.12 x RENT) + (.63 x SERVICE)

CONSTANT equals one for each county. RENT is the average monthly rent paid by county residents in 1980, divided by the state average so the statewide mean value will be 1. It is tabulated by the decennial U.S. Census and is available from the Indiana Business Research Center (1985). SERVICE is the average annual wage of service sector employees in 1986, again divided by the state average. It is available in the Indiana volume of U.S. Bureau of the Census, *County Business Patterns* (1988). The resulting index PRICE averages 1 for the state, with a minimum of 0.71 in Union County and a maximum of 1.39 in Lake County. This implies that other court prices are about 29% lower than the state average in Union, and 39% higher than the state average in Lake County.

The final measure tested for its influence on costs is the number of courts in each county (COURTS in the second equation). This figure is derived from the *Report* by counting the number of circuit, superior, county, city, and town courts in the county. Joint county courts are counted as one-half court in each county.

Estimation Results

Local court regression results are reported in **Table 1**. Regression I, using all 92 counties, has an R-squared statistic of .903, implying that 90% of the variation in costs is explained by the equation. The coefficient on CASES indicates economies of scale. Interpreted as a "cost-quantity elasticity," the coefficient implies that a

10% rise in the number of cases causes a 7.27% rise in total costs. The reported t-statistic implies that the coefficient is significantly greater than zero, meaning there is little doubt that more cases cause higher costs. But the t-statistic testing whether the CASES coefficient is less than one is 6.14, also significant. There is little doubt that costs rise less than proportionately with the number of cases.

The coefficients on the factor price variables are also positive and significant. As expected, higher wages and prices paid by courts imply higher total costs. The missing factor price coefficient (a_2 in the second equation) is also positive at .177, calculated from the restriction that the factor price coefficients must sum to one.

The coefficient on COURTS (the number of courts in a county) is positive and significantly greater than zero. Each additional court in a county increases costs 3.6%, given the number of cases to be disposed of. This is consistent with the economies of scale result, implying that increasing the number of courts, each disposing of a smaller share of total cases, tends to increase total costs.

An interesting question is whether economies of scale "run out" as the number of cases becomes large. Could even the very largest county court systems decrease average costs by becoming larger still? To answer this question, counties are divided into two groups: those with fewer than 10,000 cases disposed of in 1988, and those with more. Sixty-three of 92 counties had fewer than 10,000 cases. Regression II shows economies of scale greater than those estimated for all 92 counties—a 10% rise in the number of cases raises costs by only 4.86%. Adding an additional court to dispose of the same number of cases raises costs 8.8%. Twenty-nine of 92 counties processed more than 10,000 cases. Regression III shows that there appears to be no economies of scale for the largest counties. A 10% rise in cases processed increases costs 9.85%, and the CASES coefficient is not significantly less than one. The coefficient on COURTS is not significantly different from zero, implying that adding a court to dispose of a given number of cases does not increase costs. Economies of scale, then, appear to run out, since no further economies are available after courts reach the 10,000-case level.

Implications

These results imply that the smallest two-thirds of Indiana counties are operating courts too small to exploit economies of scale. Moves to break up multi-county circuit, superior, and county courts likely increase court operating costs. Although the increasing volume of cases probably justifies employing more judges, it would be less costly to hire more judges in multi-county districts than to create a new county district for each new judge.

Small counties could likely reduce costs by combining into multi-county court districts. As an example, consider Fayette and Union, two small counties in east central Indiana. Fayette had a single county circuit and superior courts that in 1988 disposed of 3,572 cases at a cost of $208,000. Union had only a circuit court that disposed of 1,760 cases at a cost of $62,000. A single superior and circuit court district including both Fayette and Union counties would have disposed of a combined 5,332 cases. Assume that courts would pay the higher of the two counties' wages and prices—in this case those of Fayette County. Regression II, which applies to counties with less than 10,000 cases, implies that the two counties combined could have disposed of their cases for $245,000, a $25,000 saving over their actual costs—about 9%. The regression equation does not reveal the source of these savings. Among the possibilities are elimination of duplication, increased efficiency from specialization of personnel, and using personnel and facilities at capacity.

The second implication of the cost results is that fewer courts within a county are less costly than more courts. The move to eliminate town and city courts, whatever its other merits, is likely to save money. For example, Fountain County in west central Indiana operates a circuit court that disposed of 2,086 cases in 1988 for $86,000. Attica City court disposed of 2,088 cases at a cost of $24,000. The regression results for small counties imply that combining these two courts into one would reduce total costs by about $10,000, or 9%.

This cost disadvantage does not appear likely to discourage cities or towns from creating their own courts, nor is it likely to encourage elimination of existing courts. The average city or town court raises more revenue in fines and fees than it costs to operate. When a town court is created, total court costs in the county rise, but enough revenue is shifted from the county to the town to make the move worthwhile for the town. The county's net expense from court operation increases by more than the net revenue received by the town.

Bigger appears to be cheaper for Indiana's local court system, but this does not necessarily imply that bigger is better. There may be good reasons to have small single-county circuit and superior court districts, or towns with their own courts. Perhaps judges with more intimate local connections produce better decisions or are more responsive to local concerns, or perhaps citizens find smaller courts less intimidating. If so, the citizens of Indiana may wish to continue using small local courts. These results show the price they must pay.

Notes

1. The Cobb-Douglas cost function is a special case of the more complex translog cost function. Cost estimates using the translog function showed similar economies of scale and court organization results.

2. Many cost studies ignore capital outlays, which often include huge expenditures for construction, because the services derived from newly built structures last for the life of the building, whereas the costs of construction are tabulated in the first year. In this case, however, half of the capital outlays went for law books, which is likely a recurring expenditure since laws are updated each year. The remaining portion of capital amounts to less than 2% of total cost, so it seems unlikely to cause problems with the estimates.

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The Life-Cycle Consumption Function and the Accumulation of Liquid Wealth in Indiana, 1982-1989

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There is a broad consensus among economists that consumers are a key driving force in modern market economies. In this regard, the decisions consumers make with respect to spending and saving have serious implications for economic growth. The principal decisions consumers make, in addition to how much of their current or expected income they wish to spend on current consumer goods and services, concern accumulation of liquid assets, such as bank deposits or savings and loan deposits, and the accumulation of competing forms of wealth—namely, physical assets such as homes or human capital.

In his Nobel Prize acceptance address, Franco Modigliani stated the following: "The size of saving over short periods of time, like a year, will be swayed by the extent to which current income departs from average life resources" (Modigliani 1986). The principal variable studied by Modigliani is the wealth-income ratio. His findings are well known—in a stationary state the dissaving of the retired from wealth accumulated earlier just offsets the accumulation of the active population.

The proposition we shall test, among others, is the hypothesis that the rate of saving is low or negative in the low age groups as well as in the high age groups. This hypothesis has been challenged in several empirical studies, but continues to be defended by Modigliani.

To test the common thread in the various versions of the life cycle hypothesis, we obtained data from 92 counties in Indiana from 1982 to 1989. We analyzed 42 demographic and economic explanatory variables, and measured the accumulation of liquid wealth separately in banks, savings and loans, and credit unions, as well as total accumulation of liquid wealth in all depository institutions. This framework made it possible to measure not only total accumulation of wealth as a proportion of total wage and proprietors' income, but also preferences with respect to type of liquid holdings over the life cycle.

We tested the life cycle thesis by measuring accumulation of wealth at two tails of the age distribution: the impact on accumulation of liquid wealth of changes in the number of heads of households below 30 and over 55 years of age. We did not directly include family size, which plays an important role in life cycle theory, because of the obvious correlation of family size with the tails of the age distribution.

We introduced a dummy variable to differentiate between urban and rural counties. Urban counties were defined as counties with an industrial labor force exceeding 20,000. This was done for two reasons. First, physical forms of wealth may be preferred to liquid wealth in rural counties. Second, researchers have found that the age-wealth profile tends to be different for blue-collar cohorts who mostly reside in urban counties (Burbridge and Robb 1985).

To account for substitution of competing liquid assets for deposits, we included a composite of interest and stock yields. We assumed the traditional inverse relationship between deposits and the return on alternative assets. This situation is somewhat mitigated by the income effect due to capital gains and the downward pressure on consumption of intertemporal substitution. Both effects were noted by Modigliani.

The more complex substitution phenomenon is between deposits and the accumulation of physical wealth, notably housing and human capital. Clearly these variables are correlated with the proportion of young households in the age distribution. We used both education and housing as well as the proportion of young households in one model and subsequently omitted housing and human capital in another model.

Some economists (Hayashi 1985a, 1985b) observed differential life cycle behavior by wealthy as compared to average households. We used the median value of homes as a proxy for wealth to measure the Hayashi effect.

Many tests of the life cycle thesis are based on panel data of limited size—under 1,000 usable data points. We have compiled county data over almost a decade. This approach may eliminate technical problems researchers have encountered with panel data (Hall 1986). Aggregated county-wide data may offset extreme interpersonal differences.

Finally, by analyzing accumulation of liquid assets in banks, savings and loans, and credit unions, we can measure the preferences of Indiana residents with respect to financial institutions by age groups, income, urban or rural residence, education, and wealth.

Source of Data

The data were obtained from the Indiana University *STATIS*. Most of the data were available on a yearly basis. Data not available annually were estimated by a smoothing function that estimated missing values. Data on bond rates and returns on stocks were obtained from the Survey of Current Business; other financial data were obtained from the annual SHESHUNOFF Volumes.

Computational Method

The Model assumes contemporaneous correlation of errors across equations. We used SAS ITSUR (iterative seemingly unrelated or joint generalized least squares) in ETS, Version 6. ITSUR is most effective for large samples such as the present data set (2,185 degrees of freedom). We assume all explanatory variables are additive in their impact on the dependent

variables. Owing to the fact that total deposits is the sum of bank, savings and loan, and credit union deposits, the model is constrained by an "identity." The definitions of the variables are given in **Figure 1**.

Figure 1
Definition of Variables

Dependent Variables:

LBA	Logarithm of deposits in commercial banks in county, i, at time, t.
LSL	Logarithm of deposits in saving and loans in county, i, at time, t.
LCU	Logarithm of deposits in credit unions in county, i, at time, t.
LTOT	Logarithm of deposits in all financial institutions in county, i, at time, t.

Explanatory Variables:

LWealth	Logarithm of median value of homes in county, i, at time, t.
LIncome	Logarithm of total personal and proprietors' income in county, i, at time, t.
LSenior	Logarithm of proportion of population over 55 years of age in county, i, at time, t.
LHomes	Logarithm of dollar value of private single family dwelling permits in county, i, at time, t.
LEducation	Logarithm of proportion of population with a bachelors degree in county, i, at time, t.
Urban	Dummy variable which is 1 if county, i, is urban; zero otherwise.
LInterest	Logarithm of basket of yields on Treasuries (SCB-114), corporate bonds (SCB-116), and return on stocks (SCB-19), converted to an index and averaged.
LJunior	Logarithm of proportion of population under 30 in county, i, at time, t.

Note: Proportions are entered as integers, not as decimals. Direct transaction deposits were excluded because such deposits may reflect loan activity unrelated to accumulation of liquid wealth. SCB stands for Survey of Current Business.

Table 1
Iterative Generalized Least Squares Partial Regression Coefficients for Log Variables

EQ1: Degrees of Freedom = 2176 System Weighted R^2 = .8267
EQ2(*): Degrees of Freedom = 2185 System Weighted R^2 = .8246

Explanatory Variables and T-Statistics (in Parentheses)

Dependent Variable	*LWealth*	*LIncome*	*LSenior*	*LHomes*	*LEducation*	*Urban*	*LInterest*	*LJuniors*
LBA: Banks	0.2944	0.4431	0.7704	-0.0123	-0.1875	0.2089	-0.0349	-0.0245
	(2.816)	(12.045)	(7.015)	(-1.350)	(-3.183)	(3.867)	(-7.764)	(-0.205)
LBA: Banks*	0.0749	0.4301	0.6228			0.1795	-0.034	-.2669
	(0.923)	(11.718)	(6.302)			(3.335)	(-7.669)	(-2.802)
LSL: S&Ls	1.101	-0.1871	0.6392	-0.1809	0.4566	-1.882	0.0466	1.419
	(1.022)	(-0.492)	(0.565)	(-1.927)	(0.752)	(-3.377)	(1.005)	(1.152)
LSL: S&Ls*	0.6644	-0.2852	1.1577			-1.856	0.0659	1.809
	(0.799)	(-.759)	(1.144)			(-3.368)	(1.45)	(1.855)
LCU: Credit Unions	-3.907	3.598	-5.271	-0.0826	1.330	-0.2901	-0.0268	1.226
	(-3.516)	(9.173)	(-4.515)	(-0.853)	(2.124)	(-0.505)	(-0.560)	(0.966)
LCU: Credit Unions*	-3.133	3.592	-4.096			-0.1182	0.0157	2.785
	(-3.650)	(9.258)	(-3.921)			(-0.208)	(-.335)	(2.765)
LTOT: Total Dep.	0.2197	0.4209	0.6795	-0.0205	-0.1120	0.1387	-0.0332	0.0634
	(2.530)	(13.734)	(7.448)	(-2.706)	(-2.289)	(3.089)	(-8.879)	(0.639)
LTOT: Total Dep.*	0.028	0.4041	0.6012			0.1182	-0.0313	-0.0939
	(0.417)	(13.247)	(7.319)			(2.642)	(-8.487)	(-1.185)

Identity: LTOT = LBA + LSL + LCU.

Results

The partial regression coefficients and the t-scores for each variable are given in **Table 1**.

1. If we disregard accumulation of physical wealth—LHomes—and accumulation of human capital—LEducation—there is dissaving at the lower end of the age distribution. LJunior is negative and statistically significant for banks.

2. Accumulation of liquid assets at the top end of the age distribution continues over all age groups—LSenior is positive and statistically significant for total deposits and for bank deposits. On the other hand, LSenior is not statistically significant for S&Ls and is negative and statistically significant for credit unions. This finding supports the hypothesis of T.B. Burbridge (1985). The authors claim that white-collar households continue to accumulate past age 55, whereas blue-collar households dissave past age 55. Owing to the fact that the bulk of deposits in credit unions are held by blue-collar households, the Burbridge-Robb hypothesis tends to be confirmed.

3. Physical and human capital are clearly substitutes for wealth and liquid assets, even though this relationship affects different financial institutions differentially. LHomes is statistically significant, and negative as expected, for S&Ls. It is negative though not significant for banks and credit unions. LEducation is negative and statistically significant for banks. However, it is statistically significant and is positive for credit unions. This may be due to the aforementioned blue-collar appeal of credit unions.

4. Returns on alternative assets demonstrate the traditional inverse relationship overall; however, the effects on credit unions and S&Ls are not statistically significant, possibly because of a concentration of blue-collar depositors who are less likely to switch from liquid deposits to alternative assets when yields rise.

5. Other things being equal, urban populations tend to favor banks over S&Ls or credit unions. The dummy variable Urban is positive and significant for banks and overall; however, Urban is negative and statistically significant for S&Ls. Urban is not significant for credit unions. There is no hypothesis in the literature supporting this finding. However, there may be ethnic preferences at work relative to type of institution on account of a concentration of minorities in urban counties.

6. The most interesting finding is the negative coefficient for LIncome for savings and loans. This unusual result suggests a possible shifting of funds from S&Ls to other financial institutions in Indiana in the aftermath of the adverse publicity meted out to S&Ls by the media.

7. The Hayashi version of the Life Cycle theory, which suggests that absence of liquidity constraints

may modify the saving function of the wealthy, is only partially confirmed. Wealth (proxied by the log of the median value of homes) is statistically significant for banks and overall in the first version. LWealth is negative and significant for credit unions, only, in the second version (marked by an asterisk), suggesting that the market share of credit unions declines in wealthier counties.

8. The relative value of the coefficients is important in the present partial log-log specification. Clearly, income, age, and urban vs. rural account for the bulk of the proportional changes in deposits. Significantly, the sum of the partial elasticities for income and age—LIncome and LSenior—exceed unity for banks.

Table 2 gives a more detailed view of the relationship between the ratio of liquid wealth over income and individual percentiles of the age distribution.

Conclusions

The Indiana data support the contention that if we allow for the accumulation of wealth in the form of physical assets and in human capital at the lower end of the age distribution, and for the bequest motive at the upper end of the age distribution, then the wealth-age accumulation curve is considerably flatter than the typical humped distribution that, following Modigliani, appears in textbooks. This is particularly true for white-collar households. Thus, if the ratio of white-collar to blue-collar populations rises, as expected, the wealth-age curve in Indiana may flatten out. This has clear implications for the consumption function. By focusing on different financial institutions, with different concentrations of depositors, we can separate big savers from small savers more effectively than was accomplished by other authors (Hayashi 1985b).

Moreover, as the white collar population ages, the wealth-age profile will become increasingly right-skewed, which may stimulate economic growth by raising the saving ratio. One may also suggest that banks are likely to gain deposits at the expense of other financial institutions.

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Table 2
First Order Correlation Coefficients

2185 degrees of freedom

	Total Deposits Over Income	*Bank Deposits Over Income*	*Savings and Loans Deposits Over Income*	*Credit Union Deposits Over Income*
PC 15	-0.294	-0.328	0.005	0.197
PC 20	-0.180	-0.208	-0.017	0.184
PC 30	-0.239	-0.240	-0.032	0.055
PC 40	-0.207	-0.254	-0.116	0.033
PC 50	0.123	0.129	0.080	0.055
PC 55	0.115	0.112	0.050	-0.134
PC 60	0.192	0.193	0.062	-0.103
PC 65	0.144	0.140	0.008	-0.141
PC 70	0.273	0.298	0.030	-0.199
PC 75	0.381	0.405	0.016	-0.162
PC 80	0.429	0.464	0.023	-0.174
PC 85	0.437	0.466	0.001	---

NOTE: PC 85 is the proportion of the population between 80 years and 85 years, etc.

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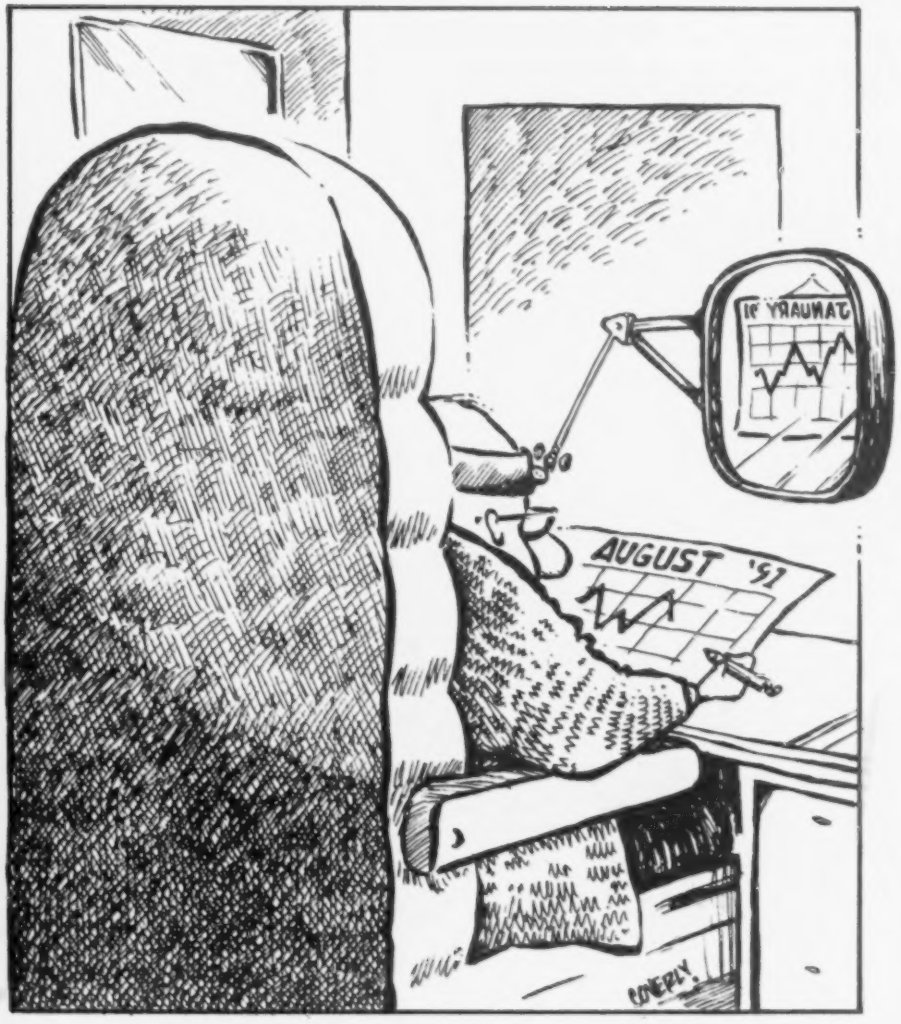

The 1991 Midyear Outlook

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The Midyear Outlook for the National Economy

Bruce L. Jaffee

Chairperson and Professor of Business Economics and Public Policy, Indiana University

Last fall we predicted a short and mild recession in the United States from the end of 1990 through the first quarter or half of 1991. We still believe this forecast is accurate, although the recession is likely to be a bit longer and deeper than we expected, though certainly less severe than the major downturn we experienced in 1981-82. The successful outcome of the short Persian Gulf War was a boost to the economy in terms of business and consumer expectations in keeping down energy prices. Yet the euphoria was short-lived and has not had any significant effect on the economy. The consumer and investment sectors of the economy were especially weak during first quarter 1991.

We now expect the recession to continue through the first half of 1991, with positive, though modest, growth in real GNP occurring in the third and fourth quarters of this year. On a year-to-year basis, we expect real GNP to decline between 0 and -0.5% for the year. Recovery in the housing, automobile, and consumer durable markets is likely to begin in earnest by midyear, though from dismally low levels.

The unemployment rate is likely to peak in the 6.5-7% range, substantially below the levels reached during the last recession. The slowdown of consumer spending and the moderation of energy prices have caused us to reassess our forecast for inflation in 1991. Comparing average price levels in 1991 and 1990, we now expect consumer prices to rise about 4.5% to 5% and for the broader GNP deflator to increase about 0.75% less, partly because it includes the weak investment sector.

The regional and sectoral impacts of this recession are quite different from the last one. The Northeast and Southwest have been hit badly, as have jobs in the financial, educational, real estate, and governmental sectors. Although unemployment rates for blue-collar workers and in the Midwest have increased, the rise has been less than in the most recent downturns.

We expect the investment sector to be weaker than we predicted last fall. In particular, non-residential investment should decline about 2-3% in 1991. The residential sector is expected to continue in the doldrums throughout the year, but we expect a modest upturn in the second half. Interest rates fell more than predicted, due in part to expansionary monetary policy, but we think no further significant declines in rates are likely. The stock market rise during first quarter 1991 was not based on any economic fundamentals other than the decline in interest rates. The stock market appears to be fully valued, but we also said that before the run-up in the first half of the year.

In general, bank and financial markets are likely to remain weak through 1991 as financial institutions try to strengthen their balance sheets. There is likely to be considerable credit restraint even with the sharp declines in interest rates because of an increased emphasis on loan quality. The strong sector of the economy in 1991 is likely to continue to be net exports. The recession is reducing imports while relative strength of economies in much of the rest of the world is promoting our exports. However, if our economy recovers in the last part of 1991 and if the dollar continues to strengthen, the U.S. balance of payments may worsen. Fiscal policy is serving as a modest restraint to economic growth. Since the recession began, taxes have increased at the federal, state, and local levels.

Overall, we think 1991 will be a year of negative growth in the first half and modest recovery in the last half as consumer spending and business investment improve from their low levels in the first half.

Consumer Spending

R. Jeffery Green

Professor of Business Administration and Economics and Co-Director, Indiana Center for Econometric Model Research, Indiana University

Our forecast last November for consumer spending anticipated a decline in both the last quarter of 1990 and first quarter 1991. As **Table 1** shows, that decline occurred but was much larger than anticipated. Why was it so large?

We expected real incomes to fall during the winter for several reasons. The oil price increases resulting from the Iraqi invasion of Kuwait produced a temporary spurt of inflation that eroded the purchasing power of consumers' income. We expected that nonresidential investment and residential investment would both be weak and lead to reductions in employ-

Table 1
Actual and Forecast Values—Real Personal Consumption Expenditures
(Trillions of 1982 dollars)

	Actual	*Nov-90 Forecast*	*May-91 Forecast*
3Q 1990	2.697	2.700	2.697
4Q 1990	2.674	2.695	2.674
1Q 1991	2.664	2.690	2.664
2Q 1991		2.690	2.676
3Q 1991		2.702	2.692
4Q 1991		2.714	2.708

Table 2
Components of Real Personal Consumption Expenditures—May 1991 Forecast
(Billions of 1982 dollars)

	Durable Goods	*Nondurable Goods*	*Services*
1Q 1991*	404	895	1,365
2Q 1991	408	898	1,371
3Q 1991	413	901	1,378
4Q 1991	417	906	1,385

** Actual but preliminary*

ment and income. Finally, we expected the effects of higher defense spending for the Gulf War to partially offset these declines.

As the winter progressed, the declines in both residential and nonresidential investment became more severe than anticipated. Housing starts reached a trough in January 1991 that was near the lows seen in the recessions of the early 1980s. Nonresidential investment fell at more than a 14% annual rate in first quarter 1991 as both equipment and structures posted big declines. Even more surprising was the decline in real defense purchases in first quarter 1991 while war raged in the Persian Gulf. Surely this is the first war in American history during which defense purchases declined! As a result of these developments, real disposable personal income declined at a 3.5% annual rate in the last quarter of 1990, and declined at a 1.6% annual rate in first quarter 1991. It was these declines in income that caused the sharp reductions in consumer spending.

From third quarter 1990 to first quarter 1991, real consumer expenditures declined by $33 billion. Durable goods expenditures declined by $26 billion over the same period while nondurable goods expenditures declined by $22 billion and expenditures on services rose by $15 billion. This pattern is typical in recessions, because many durable goods purchases such as autos and appliances can be postponed, as can some purchases of nondurables such as clothing and restaurant food.

Automobile sales have been particularly hard hit in this recession. Total auto sales averaged more than 10 million units during each of the five years from 1984 through 1988. In 1989 unit sales declined to 9.9 million before dropping to 9.5 million units in 1990. These gradual declines turned into a rout late last year as unit sales fell to a 9 million annual rate in the fourth quarter and then dropped again to an 8.2 million annual rate in first quarter 1991. Auto sales have not been this poor since early 1983, as the last recession was ending.

Where will consumer spending go from here? Table 1 indicates that we still expect real consumer spending to rise during the rest of 1991. Whereas there are not yet any unambiguous signs that the economy has begn to recover, there are signs that we are reaching the trough of the recession. In particular, real disposable personal income, which experienced sharp declines late last year, was constant from January to February 1991 and then posted a small gain in March. We expect these income gains to increase during the rest of 1991 and provide the basis for the expected expansion of consumer spending.

Table 2 shows that all major components of consumer spending are forecast to participate in the recovery, but the recovery is not rapid. Credit restraints in the aftermath of the S&L crisis and the declines in defense spending related to both the ending of the Gulf War and last fall's budget agreement should put some drag on economic recovery.

Nonresidential Investment and Inventory Change

Lawrence S. Davidson

Professor of Business Economics and Public Policy and Director, Indiana Center for Global Business, Indiana University

Last fall we forecast that nonresidential investment would show no growth from its 1990 level, as measured in 1982 dollars. We also predicted little or no inventory change. Since then we now know more about the resolution of the Persian Gulf conflict and we have learned more about the course of the recession from published data on fourth quarter 1990 and first quarter 1991. As we had hoped it would, the war ended quickly. Although the recession appears to be the short and shallow one we predicted last fall, it has been slightly more severe than we anticipated. The unemployment rate will peak higher than the 6.5% earlier projected and the economy will probably grow less than the meager 0.5% we thought last fall.

Closer to the subject of capital spending, nonresidential investment (spending by firms on equipment and structures) revealed an unexpectedly sharp contraction of more than 10% in first quarter 1991. Some experts look for another double-digit contraction in the second quarter. Though structures spending has been scaled back for several years, it doesn't look like 1991 is the year when this will snap back. The Commerce Department's annual survey of spending inten-

tions in February showed that firms are paring back capital spending plans from levels anticipated three months earlier. In current dollar terms, firms are planning a meager 2% expansion of capital spending. Manufacturing firms are planning no increases over their 1990 spending levels. Overall manufacturing utilization rates have recently crawled below the 80% mark. Further, a recent survey of major metropolitan areas finds that around half of the cities have office vacancy rates above 20%. Many experts think the glut could last a few more years. There is also a growing recognition that foreigners are moving their financial and real investment spending elsewhere in the world.

This recent news makes even our flat forecast for nonresidential investment look too sanguine. Nevertheless, a few bright spots keep us from revising downward too much. The recession looks as if it has reached its trough. Inflationary expectations are subsiding and interest rates have a little more room to fall. Housing is starting to snap back, and other durable goods and capital spending won't be far behind. Offsetting the negative outlook with these positive factors leads me to predict that nonresidential investment could contract by no more than 2-3% in 1991.

Though the economy has grown a little slower than expected, inventories have not become a great burden. Firms reduced inventories by around $3 billion in 1990 in constant 1982 dollars. As sales began to contract at the end of 1990, business inventories were sharply reduced at an annual rate of over $20 billion during fourth quarter 1990 and first quarter 1991. Because firms have reacted so quickly to sales changes during this recession, I continue to expect very little change in business inventories over 1991—with changes falling within a bracket of, say, plus or minus $5 billion in 1982 dollars.

Unemployment, Inflation, Interest Rates, and Fiscal and Monetary Policies

George W. Wilson

Distinguished Professor of Business Economics and Public Policy and Professor of Economics, and Director of the Transportation Research Center, Indiana University

One major uncertainty in the outlook that hung over our forecast last fall has been removed—namely, the ending of the Gulf war. Its brevity and resoundingly successful outcome was expected to have a stimulating impact upon the economy despite the devastation to Kuwait's oil fields. Yet the wave of rejoicing and euphoria has not been translated into a renewed dynamism for the economy in any obvious way. Perhaps the aftermath of the war has dampened spirits somewhat: Hussein is still there, stubbornly refusing to flee the country, as all defeated tyrants are supposed to do, and behaving as usual toward his Kurdish countrymen and other rivals; the oil wells are still burning in Kuwait; and attempts to somehow "solve" the Middle East problems with our newly demonstrated power have, as expected, gone nowhere. Whatever the reason, the war has not had nearly as much effect upon the economy for good or evil as most had predicted.

At present writing (late May), there are some favorable signs, such as the rise in factory orders in April and marginal improvement in domestic vehicle sales. But there is no post-war spurt, and the unemployment rate remains well below the last recession, falling in April to 6.6% from 6.8% in March. After the shock of the unexpectedly large drop in real GNP during the first quarter, one needs to be somewhat optimistic to believe the turnaround will come soon, although the signs suggest that the worst may be over by the end of June. If so, real GNP growth on a yearly basis should be about what we predicted earlier—namely, about one-half of one percent real growth over calendar year 1990.

Unemployment

The unemployment rate depends upon the growth rates of real GNP, the labor force, and labor productivity (real GNP per person or, better, per person-hours employed per time period). The predicted growth rate of output is well below the growth rate of the labor force, so even with a low but non-negative growth of productivity the unemployment rate will increase. On plausible estimates of labor force and productivity growth rates, unemployment should average almost 6% per month throughout 1991, peaking at about 7% for either May or June. This is still well below unemployment rates during 1982 and 1983, which *averaged* over 9.6%. In this sense, if the recession ends in the next few months, as our forecast assumes, it will be relatively mild in its impact upon overall unemployment rates. The apparently more adverse consequences that these data suggest, as widely and vividly reported in the media, are a result of the more widespread incidence of unemployment on white-collar workers and workers in the professions and other areas hitherto largely exempted from recessionary layoffs. The industrial shift to service and knowledge-based industries has helped "democratize" the pain-cost of aggregate unemployment rates.

There is, of course, no way to calculate such costs. This recession, if it does end by late June, will be recorded as "mild" and short. The recovery after the second quarter is expected to be almost equally as mild, though we hope not as short—but that involves our forecast for 1992, due later this year.

Inflation

Oil prices can be expected to decline somewhat or stabilize, as the fear of future severe scarcity due to military destruction of Gulf oil facilities vanishes along with a slowdown in oil demand due to sluggish output growth, conservation, and greater supply from other regions as well as restoration of Kuwaiti and Iraqi production. Inflationary pressures in the U.S. will be held back by the sluggish economy and low growth of aggregate spending (further influenced negatively by the federal government's contractionary fiscal policies). The resultant excess labor and capital capacity represent powerful anti-inflationary pressures.

The only offsetting inflationary pressures are associated with the expected devaluation of the dollar and resultant higher import prices, and the excise tax increases in the federal budget package. But higher import prices will be less inflationary because import quantities will shrink from last year due to expected slower real GNP growth. On balance, if oil prices hold throughout 1991 at present levels or decline slightly, the overall inflation rates should decline to a range of 3.5 to 4.5% for the GNP deflator.

Interest Rates

Nominal rates should decrease with the rate of inflation, but probably not as much, depending upon the actions of the Federal Reserve, discussed below.

Fiscal Policy

Enough has already been said in the media and elsewhere about the process whereby the budget was finally approved. Its impact upon the economy during calendar year 1991 needs to be assessed. Aside from the inconsistency of a contractionary fiscal policy amid a rapidly contracting economy, and the perpetuation of the myth that all federal government deficits represent national dissavings (which implies that all federal government expenditures are consumption whether or not they are used to finance sorely needed infrastructure, health and education facilities, or other capital-like assets), the present package widely billed as reducing the deficit by almost $40 billion below what it would have been in fiscal year 1991 is something of a mouse in a $5.5 trillion economy.

Furthermore, the attempt to simplify taxation in 1986—never too successful in the first place but at least a useful attempt—has been emasculated with the present budget as we march sharply back to pre-1986. Reintroducing tax rate disparities between capital gains and ordinary income provides incentives to convert as much of the latter to the former as possible, with all the associated gamesmanship (if not outright fraud) that the 1986 act sought to eliminate. Many new complications are added, so simplification has once again yielded to complexity and higher incomes for firms that prepare tax returns.

The net effects of the budget on the economy will be mildly contractionary and will worsen somewhat or prolong recession, but not significantly. It may make many people happier to believe that a "real" deficit reduction process has begun. It hasn't, but if the economy begins to grow more rapidly beginning, say, in 1992, this package extending over five years should lead to greater deficit reductions than otherwise expected. It is also nice to see equity and fairness at least partially reintroduced into U.S. tax policy through somewhat higher progressivity.

Monetary Policy

The Fed has lowered the discount rate three times since December. If the economy does not show more convincing signs of a turnaround in the next several weeks, it will probably move again, though even more gingerly than last time. Like all central banks, the Fed fights inflation whether it exists or not, and even if it is a remote prospect. Though monetary policy remains the only counter-cyclical game in town, its use as a stimulus in this recession has been begrudging and weak. Even this tepid performance has been viewed by many as selling out to an administration that has "shown itself incapable of exercising wise economic leadership" (*The Economist*, May 4-10, 1991, p. 17) and running a serious inflationary risk.

On the other hand, there is much virtue to shortening the recession and getting a solid recovery under way. Many urgent needs require the productive capacity to be fully utilized and expanded. To be sure, lowering short-term nominal interest rates may not lead to reduction in long-term real rates and encourage gobs of useful new investment, but it is better than nothing, or than letting the recession drift along. Even if the stimulus does not take effect until after the economy is recovering, it will help accelerate the pace and get the system to full capacity output faster. The risk of accelerating inflation is not high throughout 1991. With whatever expansion takes place during the latter half of the year expected to be less than buoyant, a little stimulus can do no harm. But do not fear. The Fed will ease again even if the turnaround is obvious during June—for 1992 is an election year!

Thus the U.S., the world's only superpower, will come through 1991, mild recession and all, poised for more rapid, sustainable growth in a more stable and promising political and economic world.

The International Economy

Jürgen von Hagen

Associate Professor of Business Economies and Public Policy, Indiana University School of Business

As we predicted last fall, world economic growth slowed in the first half of 1991 and will continue to do so for the rest of the year. Yet, with approximately 1-1.5% real growth, the industrialized world as a whole is not in a recession. The main industrial economies show remarkable differences in their business cycle position: the U.S., the U.K., and Canada are looking at little or negative growth for 1991, whereas Germany and Japan are still growing strongly, though less than in 1990, and the rest of continental Western Europe expects moderate growth. The stronger performance of the latter countries will help keep the recession relatively mild in the former group of countries. By 1992, world economic growth should pick up to around 2.5%, as the economies of the U.S. and U.K. recover. On a worldwide basis, inflation is expected to recede slightly from 5% in 1990 to 4.7% in 1991, and to around 4% in 1992.

During the past two months, the dollar has gained strength in the international markets, despite relatively low interest rates in the U.S. compared with other countries. We attribute this appreciation to the anticipation—prevailing in international financial markets—of an improvement in the performance of the U.S. economy compared to other countries in the world. The U.S. economy has recently shown signs of coming out of its recession earlier than some expected, while the strong economic growth in Japan and, even more so, in Germany appears to be faltering. As this tendency continues, the dollar should remain at its current level or even strengthen somewhat further.

Weak economic growth in the U.S. in 1990, together with the strong performance of U.S. exports and last year's decline of the dollar, contributed to narrowing the U.S. current account deficit substantially. In 1991, the contributions of the allied countries to financing U.S. war expenses in the Gulf, and the additional export demand resulting from the reconstruction of Kuwait, will further contribute to reducing the current account deficit. Germany's current account surplus, on the other hand, is expected to fall substantially due to the increased import demand from East Germany after unification and the currently high real interest rates in Germany. Japan's current account surplus, in contrast, may rise somewhat, reflecting the reduced value of Japanese oil imports due to the fall in oil prices since January.

The recent summit meeting of the seven major industrialized countries demonstrated significant disagreement between the U.S. government and its partners over the current level of interest rates. While the Bush administration pressed for lower interest rates worldwide, the German delegation resisted most strongly for fear of a monetary over-expansion reviving inflation. This situation reminds us of the debate over coordinated monetary policy in the mid-1980s, when the U.S. Treasury under James Baker finally succeeded in gaining major concessions from Japan and Germany to lower their interest rates. The experience of the following years clearly shows that such international policy games are unproductive: the only significant result then was increased international inflation. Whatever the outcome of the current debate, then, its main consequence will be a higher or lower inflation rate in Europe, Japan, and the U.S. However, neither more real growth nor a reduction in the U.S. current account deficit will follow, if the Bush administration succeeds in persuading the other governments to give in.

The most dire economic outlook worldwide today is for the Soviet Union. Hyperinflation and chronic shortages mark a situation in which the Soviet economy is rapidly disintegrating. Individual republics have begun to take control over their economies from the central government, restrict trade with other states, and strive for national autarky. Yet decentralization in this way alone seems far from promising effective economic reform. In the foreseeable future, Soviet economic conditions will be in complete disarray, leaving the U.S. and its allies with some tough choices about cooperating with the process.

Equities, Bonds, and Corporate Earnings

Michael Simkowitz

Professor of Finance and Director, Alumni Programs

It's such a pleasure to have Bruce Jaffee, a beloved colleague of mine, give me the opportunity to eat crow in public. I will excerpt short quotes from my original forecast and then give some comments as to how these forecasts did.

"In general, we expect corporate earnings to be weak among the Standard & Poors 400 industrials. Areas of relative strength will be those corporations whose revenues are export driven and those companies that are relatively liquid compared with their competitors." Forecast pretty much on the nose; no embarrassment here.

"As for short-term interest rates, we may see a further drop of about 10-30 basis points in the first part of 1991 from the current 7.3% yield on Treasury bills and an additional 15-35 basis point drop toward the end of 1991." Well, at this writing (late May) the decline on short-term interest rates has been somewhere between 100 and 130 basis points, a far steeper decline than what we were predicting for the whole of 1991. So short-term interest rates did come down faster than we thought.

Where we really stubbed our toe was that we were rather bearish as to the prospects for the stock market. This outlook was based upon the predictions that: 1) we did not expect to see short rates fall substantially (wrong!); 2) we expected long rates to be sticky for a number of reasons, such as competition from the high rates in Japan and Europe (right!); 3) we felt that dividend growth would be slow relative to the inflation rate (right!); 4) we felt that the LBO demand for securities as well as the foreign demand for equities would be substantially reduced (right!); and 5) we basically felt we were in a bear market that had further to go before it ended (wrong!).

I believe we did reasonably well in pinpointing where the most spectacular returns could possibly be found: ". . . to pick up selected equities at distress bargain prices. These selected equities will most likely be found among the very strong companies in weak industries, such as casualty insurance, life insurance, money center banks, and the financial services industry." Pretty much right on the button for that forecast. The last paragraph of our written forecast started off with the following statement: "The quicker and further the intermediate and long-term interest rates decline, the less vulnerable is the market." These rates did decline a little bit more than we thought they would, so maybe I can hide behind that and say I warned you that if interest rates came down, the market may go up from there.

Now that I have finished my meal of crow, let's take a look at the future. The overwhelming—and in terms of life and treasure, inexpensive—victory in the Persian Gulf provided the market with a tremendous emotional boost that sent it exploding from its January lows to a gain of 16% in about five weeks. Since the end of February the market has basically moved sideways. What makes me nervous about this market is that the only good thing I hear people saying about it is it beats the alternatives: With interest rates coming down, the returns on short-term money instruments do not seem to be terribly attractive; there is a general feeling that the major amount of the drop in long-term rates has already occurred; therefore, bonds really aren't that attractive; the dollar may rise some more, so foreign investments aren't really attractive; therefore, I guess the stock market is the best choice.

That is not a rationale for an exploding bull market. I think this recession will show itself to be fairly stubborn and I don't think we're going to see a general turnaround in the economy until well into the third quarter and possibly later. I think the market, when it perceives this delay, will continue in a stalled pattern. Since late February the market has been in a trading range between 2850 and 3050 on the Dow. I think this kind of sideways movement will continue until mid or late summer, with this range being punctured possibly on the up or down side by no more than 3-5%. After late summer, if the recovery is documented and underway, and if long-term rates can come down, we could see a spirited market toward the end of 1991, with an upside potential of 3300 or 3400 on the Dow. This is a market where those who are naturally aggressive and risk-taking should remain reasonably fully committed to equities, while those who are naturally conservative may want to pare back selectively on their holdings.

As for interest rates, I don't see much of a further decline in short rates. As I write this update, the yield curve shows a one-year Treasury bill with a yield of around 6.1%, and I think we might even have seen the lows for short rates.

As to long rates, I think any significant movement will be toward lower rates and higher bond prices. I think there is a chance by the end of the year that we may find the long rate below 7.5%. If we do we should have a rather buoyant stock market. If the long rates don't come down and if the economy's recovery is delayed and not obvious, then the equity market will, at best, continue to move sideways.

Indiana: What Kind of Recovery?

Morton J. Marcus

Director, Indiana Business Research Center

Most economists are now pleased to declare the recent recession at an end. It may have taken longer to end than expected, but there is fairly good agreement that second quarter 1991 was the bottom of this latest business cycle. Data revisions, of course and as ever, may prove us wrong. It is still possible that the recession actually ended in the first quarter as forecast and only better data stand between that forecast and reality.

A question does remain, however: When did this recession start? Or did we in Indiana have two recessions without being aware of the first one? **Figure 1** shows Indiana's personal income adjusted for price changes. Earlier recessions are fairly easy to see. There was a mild downturn in 1970, a more serious recession in 1974, and a major recession beginning in 1979.

A closer examination of the data (shown in **Figure 2**) indicates that the four quarters of 1988 were alternately up and down. The Indiana economy was going nowhere. Then there was a still unexplained surge in first quarter 1989. (Farm drought payments do not explain the surge.)

The next three quarters were a continuous downward slide. But first quarter 1990 brought Indiana's real personal income back above first quarter 1989 and, although weak, it remained about that level until the national recession began in third quarter 1990.

Did this recession begin in Indiana in 1989:1, 1990:1, or 1990:3? I am inclined to say that the recent recession began in first quarter 1989. That argument was made in the Winter issue of this publication. But out of consideration for my colleagues who may differ, **Figure 3** and **Table 1** depict the last four business cycles in Indiana with 1990:1 as the latest peak. The following discussion is little affected by the choice of which peak to use.

This latest recession was mild and of less consequence in terms of income than any of the three preceding recessions (see Table 1). The recession of 1969:4 to 1970:4 saw a decline in real personal income of 2.3% from the peak to the trough. Today hardly anyone remembers that recession. This recent recession was even milder with a decline of 1.8% in real personal income. By mid-1992, the Indiana economy should again be generating real income equal to that of the preceding peak period. Perhaps this recession will fade from memory as well.

Have We Changed?

The question asked most frequently during this recession was, "Has the structure of our Indiana economy changed such that we don't feel recessions as much as we used to?"

In 1979, at the start of the great recession, 39.5% of Indiana's earnings (what people make because they work for themselves or someone else) came from manufacturing. This was well above the national figure of 24.9%. At that time, Indiana was second only to Michigan in its share of income derived from manufacturing.

In 1989, the (possible) start of our current cycle, Indiana derived 32.5% of its income from manufacturing compared with a national figure of 19.7%. We still rank second only to Michigan. Our decline was 10th in the nation with a change of seven percentage points (39.5% to 32.5%). Illinois was fifth, Ohio was eighth, and Michigan ninth in this change figure. Only two states saw an increase in the share of total earnings represented by manufacturing (New Mexico and South Dakota). Nationally, the decline in manufacturing's share was 5.2%.

What took up the slack? It varied by state. A big gainer was services, which includes personal and business services such as health care, barber shops, entertainment facilities, and janitorial services, as well as attorneys, accountants, and payroll services. The gain in services was 7.9 percentage points nationally but just 6.9 points in Indiana, rising from 12.5% of

Table 1
Business Cycles in Indiana:
Period Covered and Percent Change in Real Personal Income

Recession	*Recovery*	*Expansion*
1969:4 to 1970:4 (-2.30%)	1970:4 to 1971:2	1971:2 to 1973:4 (+18.7%)
1973:4 to 1975:2 (-7.00%)	1975:2 to 1976:3	1976:3 to 1979:1 (+11.6%)
1979:1 to 1983:1 (-9.30%)	1983:1 to 1986:1	1986:1 to 1990:1 (+11.7%)
1990:1 to 1991:2 (-1.80%)	1991:2 to 1992:2	1992:2 to ????

Note: Data for 1991:2 forward in this report are based on a forecast by the Center for Econometric Model Research at Indiana University. If the latest peak was 1989:1, then the expansion increased real personal income by 10.9%, the recession reduced real personal income by 1.1%, and the recovery stage would be ended in 1991:4.

Figure 1
Indiana Real Personal Income

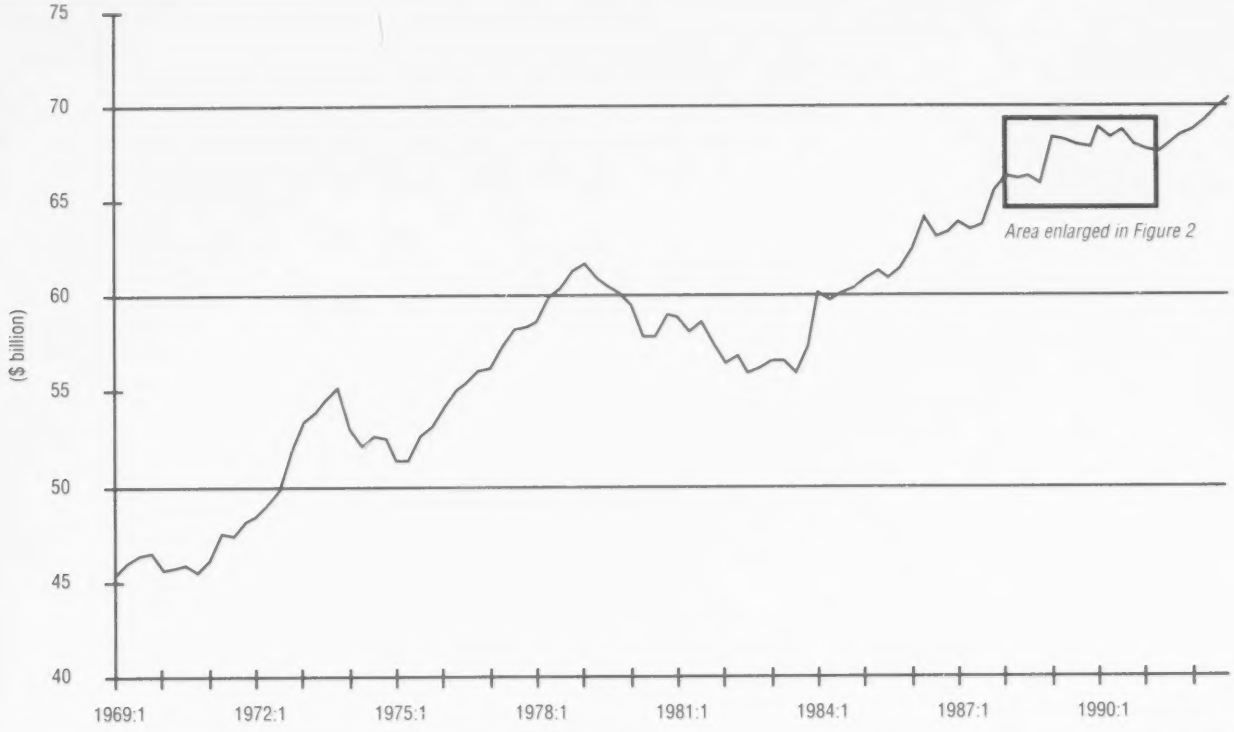
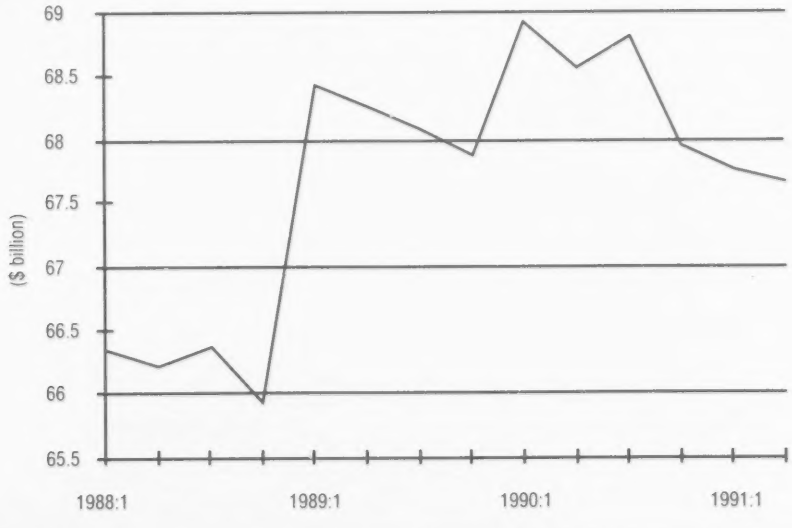


Figure 2
Indiana Real Personal Income: A Closer Look



earnings in 1979 to 19.4% in 1989. Our gain was 33rd in the nation.

To summarize, manufacturing lost 7% of the share of earnings in Indiana and services gained 6.9%. That's the shift. The rest of the economy has jostled about, but there have been no movements of this magnitude in other sectors. Are we better off? In real earnings, manufacturing declined by $3.5 billion between 1979 and 1989 (those are 1989 dollars). Services in Indiana gained $4.8 billion in the same period.

Contrary to frequent references to hamburger flipping, the decline in manufacturing was not taken up by retail trade in this state in the past decade. Retail as a percentage of total earnings has declined both in the nation and the state. In absolute terms, after adjustment for inflation, retail trade generated less earnings for Hoosiers in 1989 than in 1979.

County Variations

Although manufacturing may have declined in relative importance in the state, it gained a stronger hold in some counties where other sectors had greater declines. In 40 of our 92 counties, manufacturing earnings represented a greater share of total earnings in 1989 than in 1979. Clearly, much of the state is going against the national trend (see **Figure 4**).

The gainers from manufacturing were not just those counties with minor representations by industry. For example, in 1979, 45.1% of the earnings in Lawrence County originated in manufacturing; by 1989 that figure rose to 45.6%. A small gain, but clearly against the so-called third wave. In Kosciusko County, the share for manufacturing rose from 48.9% to 53%.

Back in 1979, 15 Indiana counties had 50% or more of their earnings generated by manufacturing employment. That number has dropped to 14 counties. Fayette County now leads the state with 64.1% of its earnings from manufacturing, hardly down from 65.6% in 1979. Formerly in first place, Howard County had shown only a modest decline from 66.5% to 63.2%.

The biggest declines in dependence on manufacturing came from just six counties. Lake County led the state with a drop of nearly 17 points from 52.2% for 11th place in the state in 1979 to 40th place in 1989 with 35.5%. The changes in Lake County, one of

Figure 3
Indiana's Business Cycles: Real Personal Income (Peak = 1)

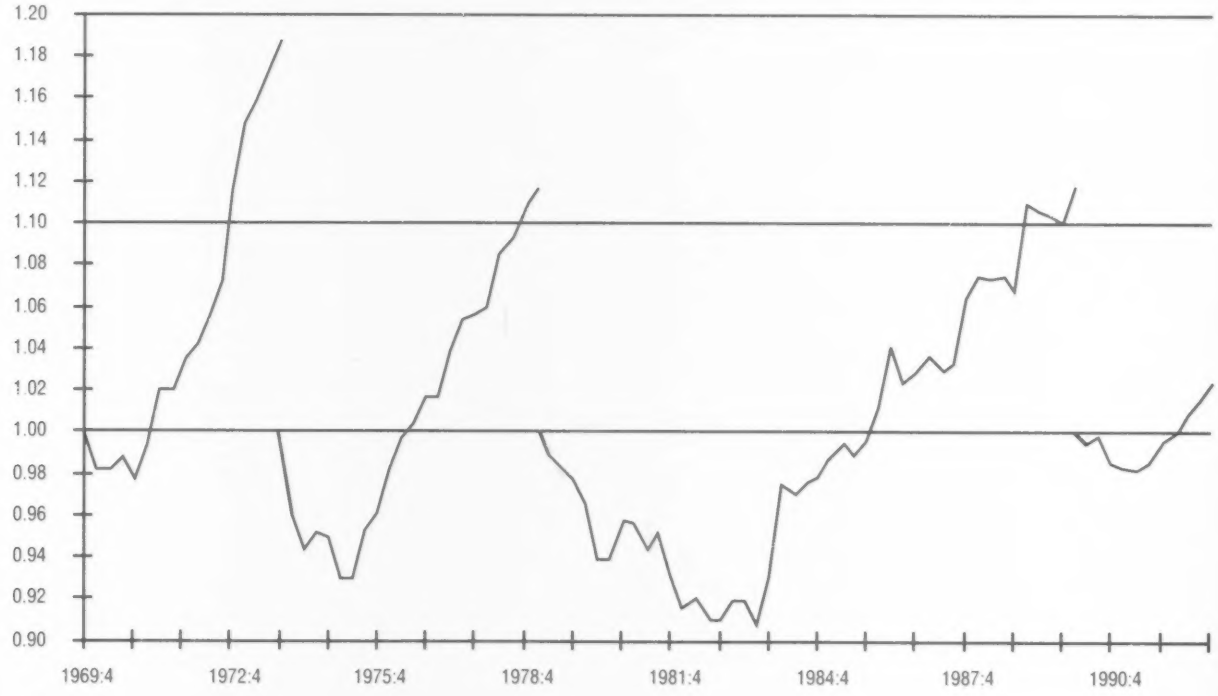
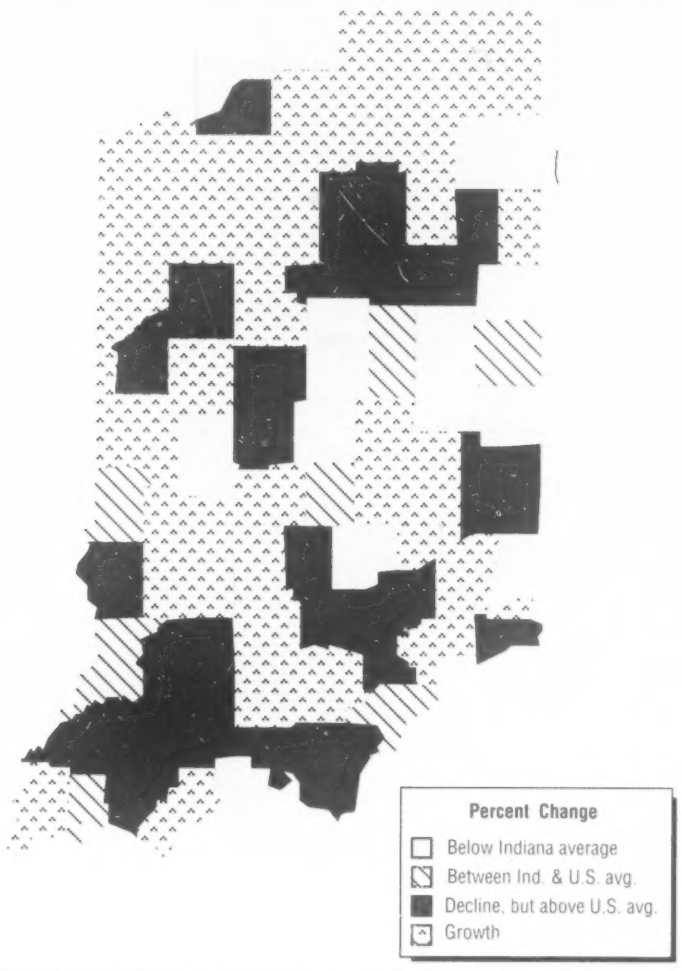


Figure 4
Indiana Counties: Percent Change in Manufacturing Share of Total Earnings, 1979-1989



our very largest counties, have driven the state's figures. Dearborn and Bartholomew counties dropped 12 points each, followed by Jay, Putnam, and Henry with more than 10-point declines.

On the upside, Pulaski County led the state, with nearly 37% of earnings in 1989 generated by manufacturing, rising over 15 percentage points from less than 21% in 1979. No other county had more than a 10-point increase.

In sum, Indiana goes into the next business expansion with less dependence on manufacturing, but still much more dependence than the nation. Our change has been less than that of the nation as a whole. Many of our counties are more dependent on manufacturing and many of our most dependent counties have changed little. A few significant counties have taken most of the decline in manufacturing, and the restructuring they have experienced has been costly and even painful to their residents, businesses, and government.

If our state's policy in the 1980s was to diversify away from manufacturing and change the structure of our economy, it does not seem to have been successful. In 71 counties we remain above the national average for dependence on manufacturing.

The marketplace may be telling us something worthwhile: that perhaps manufacturing is a successful activity when conducted in Indiana, and Indiana may be well served by pursuing manufacturing activity for its future. There is an alternative explanation: perhaps we are slow to change and these data reflect our laggard nature.

How we fare in the next recovery and expansion phases of the business cycle will depend on how competitive Indiana manufacturing is in the national and world markets. That forecast is unchanged from words that have appeared in these pages for three-quarters of a century.

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Indianapolis

Robert Kirk

Professor of Economics, Indiana University-Purdue University at Indianapolis, with data assistance from the Statistical Services Division of the Indiana Department of Employment and Training Services

The Indianapolis metropolitan area economy weathered the 1990-91 national recession very well, as evidenced by estimates of employment change in the **Table**. Employment in Indianapolis *increased* by 2.3% during the recession, which means that Indianapolis's *rate of growth* declined. This statistic is little consolation to the employers whose businesses failed, the government officials who anticipated more tax revenues, and the employees who were laid off. But it does suggest that the recession was much less severe compared to the recessions of 1974-75 and 1980-82 in the Midwest, and that Indianapolis did relatively well in the region.

Because of the mildness of the recession, I predict that the recovery will be moderate, and employment will continue to grow in the range of 2-2.5%. First, I will discuss some factors that could lead to a stronger recovery than predicted, and second, some that could lead to a weaker one.

Productivity and Profitability

The recovery should be considered within the broader context of the long-run slowdown in national economic growth as evidenced by slowing productivity growth and falling returns on equity in nonfinancial corporations. Usually in recoveries, labor productivity increases as firms increase production before hiring more employees.

Investment is based on expected profitability. Where will investment in new plants and equipment occur in the 1990s? Indianapolis and the Midwest are expected to be particularly attractive because of low costs relative to other regions. The Japanese are showing increased attention to the Midwest. The Midwest produces capital goods, which will be in demand in the 1990s. In the near term, as foreign economies' rates of growth slow, export demand may slow, but it is expected to be a source of strength as we move through the first half of the 1990s.

Table
Employment Change by Metropolitan Area, July 1990-March 1991*
(Seasonally adjusted, July=100)

Metropolitan Area	*Total Employment*	*Manufacturing Employment*
Indianapolis	102.3	99.7
Cincinnati	100.6	99.3
Columbus, OH	100.1	99.8
Chicago	100.0	99.5
Louisville	99.8	98.0
St. Louis	99.4	94.7
Detroit	97.4	90.9

**July 1990—national business cycle peak; March 1991—most recent data available.*
Source: Author's calculations based on establishment employment estimates provided by the states' Departments of Employment and Training Services.

Business and Health Services

During the 1980s, the primary contributors to Indianapolis's employment growth were business and health services. To predict whether this growth will continue, we need to understand its sources. Although several factors have contributed, two will be highlighted.

One is informational imbalances between demand and supply. In health care, when we (the patient) are ill we see a physician (the supplier) because he or she has access to information in terms of diagnostics and treatment that we don't have. Similarly, in business services, if we have an engineering, marketing, accounting, advertising, or public relations problem, we seek someone with "expertise."

The second factor is that business services tend to locate in larger metropolitan areas where the market is sufficiently large to support these specialized services. By reaching thresholds of market size permitting economies of scale, Indianapolis firms can compete with distant producers. This process is called import substitution, and its continuation should support employment growth in these services.

Another factor that has benefited Indianapolis and should continue to do so relates to the weakening of attachment to place. Increasing numbers of people are now job-loose, freed from specific jobs or places by skills, career transitions, and new communication technologies. The implication is that people are placing increasing attention on urban amenities (or the absence of urban disamenities) as a location factor. Recognizing this shift, Indianapolis has placed emphasis on broadening its range of amenities.

Concerns

The 1990-91 national recession has been characterized as a "balance-sheet" recession because the economy used debt excessively in the 1980s, resulting in financial sector loan stringency in 1990-91. Commercial and residential real estate is a prime

example both nationally and locally. Because the recession did not have the typical precursors to recession such as rising core inflation, rising interest rates, and rising levels of inventories relative to sales, the recovery will not be typical. Certain structural problems remain from the 1980s, and other changes are expected that could dampen the economy's recovery. Let's consider a few.

Auto Industry

Auto production is expected to pick up in the third quarter. Auto parts producers sell to two markets, the original equipment manufacturer (OEM) and the aftermarket. The OEM market is cyclical, so as an auto upturn develops, earnings should increase. On the other hand, the aftermarket is more stable. However, there have been recent changes that may have a negative impact on it. For example, extended warranties have resulted in car owners returning their cars to the dealers for parts repair. Also, higher quality parts in recent years may require fewer repairs. The "pent-up" demand for new cars may be tempered by the availability of "retired" fleet cars. To blunt this deterrent to new car sales, General Motors is attempting to get control of the used fleet-car business. The Indianapolis metropolitan area—with major presence by the Big 3 and OEM and aftermarket parts suppliers—has much at stake as the recovery materializes.

Two Deficits

The two deficits usually referred to are the federal government deficit and the balance of trade deficit. The latter is the one facing many state and local governments throughout the U.S. Because the federal government, when financing the deficit, is not squeezed or priced out of debt markets, it experiences less short-term pain than state and local governments that do not have the borrowing flexibility or capability of the federal government. State and local governments must eliminate the deficit or risk a lower credit rating with associated high borrowing costs. If taxes are increased, then disposable income and consumption will be affected. If expenditures are cut, households will incur the cost. In cases where borrowings increase, there may be upward pressure on interest rates. As taxes and fees are raised, firms will attempt to pass on these increased business costs, if market conditions allow, by raising their prices to maintain profit margins. The result is both a direct and indirect inflationary effect.

Consumption

In the 1980s the declining saving rate nationally spurred consumption. Consumption as a percent of GNP increased by two percentage points. I doubt if this trend will continue in the 1990s. In the previous decade, consumption was supported by favorable demographic forces. In the 1990s, the members of the baby boom generation (major contributors to the consumption boom of the 1980s) will be in the 35-44 age bracket and thinking about the adequacy of their own pensions, their parents' retirement needs, and their children's educational expenses. Some analysts think these life-cycle changes will increase the saving rate and reduce the consumption rate. For Indianapolis, the 1980s increase in consumption's share of GNP showed up, for example, in the form of new home furnishing businesses, specialized retailing establishments, and restaurants. The forecast is a slower rate of growth in retail employment than in the 1980s. A premium will be placed on good management skills to meet the challenge of a very competitive marketplace. If we are indeed successful in attracting new investment, then we can expect stronger retail growth.

Defense Closings

As of this writing, the outcome is unknown as to what extent Indianapolis might be affected by defense department closings. There will be short-term negatives with population loss, decline in residential and commercial property values, and decline in school enrollment and associated loss in federal aid to local schools. However, longer-term benefits may arise as new jobs are created from new businesses that could replace or exceed lost employment from closings. With some infrastructure in place, new uses can be housed at reduced costs to local government. Local government can obtain increased property tax revenue from previously exempt property. To reduce a potential negative impact, the reuse process should include public and private participants.

New Accounting Procedures

The recovery may be tempered as firms begin to introduce the new accounting treatment of retiree medical, life insurance, and other nonpension benefits as a form of deferred compensation. Though the new procedures are national in scope, there may be an impact on central Indiana firms. For example, industries with a high ratio of retirees to active employees will be significantly affected. Because the steel, auto, and other capital goods industries during the 1980s downsized by encouraging early retirement, they have a relatively high ratio of retirees to active employees. Central Indiana, Indiana, and the Midwest are specialized in these industries. Potential conflict between labor and management and a negative impact on labor productivity growth may arise as management seeks to reduce post-retirement benefits to existing employees. Also, management may have limited flexibility in altering benefits to existing employees unless specifically provided for in labor contracts.

Conclusions

Given that Indianapolis experienced a slowing rate of growth during the recession, it should continue on its recent moderate growth path. Some regional analysts are heralding the first half of the 1990s as a strong period for the Midwest relative to other regions. I think there are reasons to be optimistic about Indianapolis's participation. However, I have also mentioned some changes in the early 1990s that could dampen employment growth. These changes, as well as unanticipated ones, provide an opportunity for entrepreneurs to develop new products and services.

Bloomington

Richard L. Pfister

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Employment data provide the most up-to-date indicators of business conditions in local economies. These data suggest that the Bloomington area began to experience a slowdown in economic activity in early 1990, a slowdown that lasted for the entire year. Although the unemployment rate remained quite low for all of 1990 (it ranged from 2.5 to 4.3 percent), 10 of the 12 months showed either no gain or losses in total establishment employment compared to the same month of 1989. The gains in the two months (January and December) were small—less than 1%.

A question of great interest is whether the local economy is showing signs of a revival. Establishment employment shows some encouraging signs—the first four months of 1991 show increases of slightly over 1% compared to the same months last year. These increases are small, and the period is short; nevertheless, the small increases represent a reversal and could be the start of a recovery.

Monthly manufacturing employment rose over year-ago levels in the first seven months of 1989 and then began a period in which 18 of the next 20 months showed declines as compared to the preceding years' figures. This 20-month period includes the first four months of 1991, each of which was lower than it was last year. All of these declines have been small; the April 1991 figure of 9,000 was only 300 lower than it was a year ago, but was 900 below the peak reached in December 1988.

Total nonmanufacturing employment was strong throughout 1989, with year-over-year monthly increases averaging just over 7%. The monthly increases over year-ago levels fell sharply in the first three months of 1990 and turned negative in May. The changes continued to be negative until January 1991, which began a string of four consecutive months with increases of nearly 2% over last year's figures. Thus the turnaround in total establishment employment in first quarter 1991 has been entirely the result of the nonmanufacturing sectors. Manufacturing employment is still showing small declines from year-ago levels.

Among the nonmanufacturing sectors, the major changes have occurred in retail trade and selected services. Employment in retail trade was either steady or up slightly during the first 11 months of 1989 as compared with 1988. In December 1989, however, a decline began that continued for 12 months before the monthly year-over-year changes turned positive again in December 1990. The last five months (December through April) have experienced increases averaging over 6% as compared with the same month one year ago. Services and miscellaneous employment exhibited strong growth until December 1990, when employment declined slightly from the previous December. The first four months of 1991 had virtually the same employment levels as in 1990. Thus service employment has not yet begun to turn around, although the declines seem to have stopped. The government sector is the largest in terms of employment. It had been showing small monthly gains in 1990 over 1989 levels until December, after which it has been nearly the same as the year before.

Another indicator available with a short lag is the initial unemployment insurance claims. The number of such claims in the Bloomington office began to increase over year-ago levels in April 1990, and continued to show increases until August. Then, after two months of lower initial claims, the number of claims shot up in October to six times the number of the year before. Large increases over the year earlier continued until April 1991, which showed a decline from April 1990. The figure for April 1991 was still substantially higher than the comparable months for 1989 and 1988, although it was substantially lower than March 1991 and April 1990. The April 1991 figure could indicate improvement in the local labor market, although one month cannot indicate a trend.

Another encouraging sign comes from construction contracts as reported by the F.W. Dodge Company. The value of building contracts let in the Bloomington Metropolitan Area was up by 23% in April 1991 over April 1990. Cumulative totals for the first four months of 1991 lag the same period of 1990 because first quarter 1991 was quite weak. The data on building contracts, like other data for April 1991,

appear encouraging, but only time will tell if they are the start of a recovery.

There are indications that the national economy as well as the state economy may be in the early phases of a recovery. The indications for Bloomington are equally encouraging. For the last several years, the Bloomington economy has grown faster than the state economy. It is too soon to tell whether Bloomington can again grow more rapidly than the state average once the recovery is definitely underway. Most forecasters are expecting a rather slow recovery from the recession lows; it seems likely that Bloomington will follow a similar pace in its recovery. Manpower, Inc. recently released the results of its latest Employment Outlook Survey for the Bloomington labor market. The result was a slightly more optimistic outlook for increased employment in third quarter 1991 than was the case three months ago.

The largest employer in Bloomington—Indiana University—is not likely to contribute toward employment growth in the months ahead because of the budgetary crisis facing the state. At this stage, the best outcome that can be expected for the University and the local public schools is for them to continue employment at about the present level.

Columbus

Patrick M. Rooney

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The local unemployment rate in Columbus has increased dramatically from 4% in fourth quarter 1990 to 6.7% in the first quarter of this year. However, much of that change is probably seasonal, given that the unemployment rate for first quarter 1990 was 6.4% (and the fact that these data were not seasonally adjusted). The total number of employed persons has remained fairly constant, averaging 29,290 in first quarter 1991 and 29,287 in first quarter 1990. The large increase in the unemployment rate is due to the number of people actively looking for work, which is up 69% from fourth quarter 1990 to 2,123, but up only 5% from a year ago. (Labor market data, as well as residential construction, real estate, and auto sales data, are depicted in **Table 1**.)

Unemployment insurance claims show that the labor market remains very soft. Continued claims in

Table 1
Columbus Area Data

	1Q 1991	*4Q 1990*	*% Change 4Q-1Q*	*1Q 1990*	*% Change 1Q 90-91*
Labor Market					
Number Employed	29,290	29,630	-1.15	29,287	0.01
Number Unemployed	2,123	1,256	69.03	2,020	5.10
Unemployment Rate	6.7%	4.0%	67.50	6.4%	4.69
Cont'd Unemployment Insurance Claims	7,750	3,036	155.27	4,372	77.26
Initial Unemployment Insurance Claims	1,612	1,027	56.96	441	265.53
Help Wanted Advertising (1987 = 100)	90	119	-24.37	146	-38.36
Residential Construction					
Estimated Value of Permits Issued ($ million)	1.23	1.04	18.27	1.81	-32.04
Number of Permits Issued	16.0	11.7	36.75	16.3	-1.84
Average Value per Permit ($ million)	0.08	0.09	-11.11	0.11	-27.27
Real Estate					
Number of Homes Sold	156	197	-20.81	200	-22.00
Average Number of Days Listed	115.64	135.87	-14.89	139.58	-17.15
Average Market Price (sold)	$71,205.48	$73,137.66	-2.64	$74,604.82	-4.56
Auto Sales					
New Car Sales	304	385	-21.04	401	-24.19
Used Car Sales	1,988	1,605	23.86	1,938	2.58

the first quarter were up 77% from a year ago and 155% from fourth quarter 1990. Initial claims were up 266% from a year ago and 57% from fourth quarter 1990. Our local help wanted advertising index is 38% lower than it was a year ago and 24% lower than it was in the fourth quarter—local firms are not gearing up for large-scale hirings.

Residential building permits are down 32% from a year ago, but up 18% from the fourth quarter to $1.23 million per month in the first quarter of this year. This indicates that the local housing construction market collapsed at the end of last year but is now showing signs of recovery. This is further evidenced by the fact that building permits in March were up to $2.04 million from just under $1 million in February.

Although housing in Columbus remains very affordable, the median-priced home increased in value from $55,000 in fourth quarter 1989 to $61,000 in fourth quarter 1990 (the most recently available data). Consequently, our Housing Affordability Index (HAI) fell from 168 to 160. (Recall that the higher the index, the more affordable the median-priced home would be to the median-income family in that area.) Statewide, the median-priced home fell from $57,500 to $57,000, and the HAI increased from 157 to 167. Although Columbus remains more affordable than Indianapolis, which averaged $70,500 with an HAI of 142 in fourth quarter 1990, the median-priced home in Columbus is much higher than the rest of southern Indiana, which averaged $48,000 in fourth quarter 1990 with an HAI of 177.

The local real estate data suggest that fewer but more serious buyers and sellers have been exchanging properties lately. The average price of sold listings is over 4% lower than it was a year ago and 2.6% lower than in the fourth quarter. Likewise, the volume is 22% lower than a year ago. These factors suggest fewer buyers and a weaker market.

Conversely, the average number of days listed is over 17% lower than it was a year ago. This indicates that buyers and sellers are more serious—or that listing agreements are expiring and that the houses are selling on subsequent listings. This discrepancy is possible because the number of days on the market only reflects the number of days listed under the current listing, which will generate lower numbers than a more comprehensive measure of total number of days on the market.

Local car sales reflect a substitution from new cars to increased reliance on used cars. New car sales are down 24% from a year ago and 21% from fourth quarter 1990. Conversely, used car sales are up 2.6% from a year ago and almost 24% from the fourth quarter. Also, new car sales are down a noteworthy 40% from first quarter 1987, and used car sales are also off more than 20%.

Most of the local economic news has been dominated by losses and layoffs at Cummins, and, paradoxically, a Cummins-owned plant reopening. In first quarter 1991, Cummins reported a paper profit of $17.2 million, which was largely due to a one-time accounting change. They reported an operating loss of $34.3 million for the first quarter and a record $137 million loss last year, including a one-time "belt-tightening" charge of $65.3 million. Cummins has had approximately $300 million in losses from 1986-1990. In response to these losses, Cummins recently announced they were cutting their dividend from $.55 to $.05 per share, which will generate almost $7.5 million per quarter in savings.

Cummins currently has approximately 1,200 laid-off workers, but it expects to add 350 new jobs by the end of next year at the Walesboro plant. Although the union members had to accept more flexible work rules and a 43% wage cut (to $8 an hour), they felt this was better than allowing the jobs to be located out of the state.

The stock market has reacted favorably to cost-cutting measures enacted by Arvin. The stock price is up over 50%, from $14 per share in late 1990 to over $22 recently.

Business Week (May 20, 1991) released sales and profitability data for industrial firms overall, by industry, sub-industry, and firm. We can use this information to evaluate both the trends of the industrial economy and our local *Fortune* 500 firms.

While our local firms have under-performed the all-industrial average, Arvin has clearly outperformed the "auto parts" industry and the "auto" industry averages. Cummins, on the other hand, finds itself well below both the auto and "special machinery" industries (see **Table 2**).

Table 2
Financial Data: Columbus Area Firms vs. National Averages

	All	*Special Machinery*	*Auto Parts*	*Arvin*	*Cummins*
% Change 1Q Sales from 1990	3.0%	-6.0%	-9.0%	-3.0%	-3.0%
% Change 1Q Profits from 1990	-9.0%	-79.0%	n.m.	n.m.	n.m.
Return on Equity	11.5%	8.5%	0.8%	5.7%	-39.6%
5-year Growth Earnings/Share	10.0%	40.0%	-3.0%	-19.0%	n.a.
12 Months' Earnings/Share	$2.14	$2.24	$0.17	$1.18	-$14.92

Note: n.m. = not meaningful; n.a. = not available

Forecast

The local economy is subject to the seemingly capricious vicissitudes of the international and national business cycles. Because the core of the Columbus economy has been durable goods manufacturing, our

local economic fate has reflected the rising and falling tides of the nation, only more so. During most of the recovery, our local unemployment rate has been less than or equal to that of the nation. During the recession, the local unemployment rate exceeded the national average.

We can expect to see the local unemployment rate continue to exceed the overall economy's average for the next eight to twelve months, since durable goods orders tend to lag economic recoveries, and employment tends to lag the overall economy. Immediately following a recession, employers are somewhat chastised and will try to make labor adjustments with increased hours rather than increased employment—to the extent that it is feasible.

The local labor market seems to have stabilized, despite the rapid increase in the number of unemployed individuals. I would hypothesize that much of this increase is attributable to households in which one earner has recently been laid off or is at risk of being laid off. Subsequently, other individuals in the family have gone into the labor market to try to solidify household income. As workers are hired at new plants and recalled at existing plants, especially Cummins, local employment will rise, and the number considered unemployed will fall even faster.

The trucking industry had slowed even before the recession began. As demand grows and the trucking industry recovers, there should be pent-up demand that will facilitate Cummins' recovery. If Cummins' cost-cutting efforts are successful, then the local economy could experience significantly higher than average growth.

While Arvin is poised for the recovery, the auto industry is in a world of hurt. A May survey found that only 6.5% of consumers "planned" to buy a new auto in the next six months, compared to 7.7% last month. Subsequently, we should not expect to see a burst of hiring at Arvin.

The housing industry is showing signs of recovery; nationwide, housing is returning to its pre-war levels. Unfortunately those levels were not great. Additionally, some households are encouraged to buy now, while housing prices are moderating and mortgage interest rates are quite low. Most households, however, must wait for their employment and income conditions to stabilize before even considering buying a new house.

Locally, we can expect the real estate market to improve, especially if employment grows. The fact that residential building permits more than doubled in March from February augurs well for the local market. In addition, one local broker said that pending transactions in April were on a record-breaking pace, and that we may have seen the "crest of the wave" in the local real estate market, with momentum building.

Looking to the longer term, perhaps the biggest variable affecting our future growth is the state of our educational systems. Both American and Japanese CEOs have indicated that key variables in locational decisions are the quality of the existing labor force and the quality of the educational system. Unfortunately, educational support has become a political "hot potato," with all sides supporting "better education," yet none willing to take the heat to raise funding to adequate levels.

More money is not the sole solution, but it is clearly part of the [illegible]. Indiana ranks 34th in the nation in expenditures per pupil and 46th in educational attainment. The national average of those over 25 years of age with four or more years of education beyond high school is 31% greater than that of Indiana. Southern Indiana falls significantly below that of the rest of the state. Since most of the research suggests that American workers will need higher skill levels if they hope to compete with workers around the world, clearly the long-range forecast is even more pessimistic than the short-term outlook.

Evansville

Maurice Tsai

Professor of Economics, University of Evansville

In 1990, the Evansville economy grew at 1.7%, lower than the earlier estimate due to the onset of a national recession in the fourth quarter. The Gulf War and the fear of a possible earthquake in Southwestern Indiana injected uncertainty into the area economy in the second half of the year. Consequently, the local industrial production became sluggish and activities in construction, transportation, and finance slowed down. Trade and service sectors, however, topped their earlier records by growing at 5.8% for the entire year. Local employment still kept its momentum of growth, but at a slower rate of 1.5% compared to a 3% rate in 1988 and 1989. The impacts of national recession were felt by the area economy more in the first half of 1991 than in 1990.

First quarter 1991 began with weakness in industrial production, construction, transportation, and employment. The industrial production index fell by 5% from fourth quarter 1990; the construction index fell by 11%, even after correcting for seasonal factors. The transportation index remained the same as in fourth quarter 1990, which was below the third quar-

ter by 2.3%. Area employment declined by 3,000 from fourth quarter 1990 to first quarter 1991. The exception was trade and service sectors. Trade employment declined by 500 from December 1990 to March 1991, but service employment sustained and even rose up to April, when the last statistics are available. A 10% decline in construction employment was noticed in first quarter 1991.

The impacts of the current recession in the remainder of 1991 are as yet uncertain. Consumption expenditures are projected to remain at a constant real level throughout 1991; consumer spending on durables depends on local banks' willingness and ability to finance these purchases. Fortunately, the area financial institutions have been sound and healthy, so this will not be a problem as long as local banks are willing to make loans available. The worry will be consumers' ability to borrow, since the consumers' debt has been unusually high at present. Residential and business construction showed a sign of revival in the second quarter due to low interest rates. The financial sector, which experienced low activities in the past three years, is expected to expand in 1991.

During 1991, industrial production will be below the 1990 level, with a possible exception in the last quarter, when the national economy enters its recovery phase. Wholesale and retail trade will be sliding down for the first three quarters and rising in the fourth quarter; the 1991 average is expected to be 3% above the 1990 level. The service sector will remain strong throughout the whole year. The transportation sector will resume its slow upward move in the second half of 1991. Area employment is projected to rise during 1991 by 1%.

Although there are uncertainties lying ahead, the Evansville economy is expected to decline by 0.9% in 1991 in terms of Evansville Area Business Index (see the **Table**), assuming the recession ends in the third quarter. If the recession ends in the second quarter, the area economy will see less decline in its overall performance. Whenever industrial production begins to regain its upward trend, the area economy will be lifted and on its way to further growth.

Table
Evansville Area Business Index (1977 = 100)

	Industrial Production	*Trade & Services*	*Construction*	*Transportation*	*Finance*	*Employment*	*Composite Index*
Quarterly Index							
1Q 1990	120.56	128.97	118.30	104.90	106.38	116.99	121.43
2Q 1990	125.62	128.29	116.52	101.08	106.13	117.20	122.47
3Q 1990	126.17	127.15	112.48	101.95	106.87	118.62	122.14
4Q 1990	123.52	130.87	103.16	99.53	107.43	120.60	121.86
1Q 1991	117.18	133.77	91.44	99.16	107.75	119.06	119.09
Annual Index							
1987	120.57	115.24	131.46	98.04	109.98	109.52	116.58
1988	123.76	119.71	115.54	98.58	108.38	112.67	118.22
1989	123.64	121.78	118.76	102.13	107.60	116.55	119.92
1990	123.97	128.82	112.62	101.86	106.70	118.35	121.98
1991*	119.50	132.70	101.25	100.60	108.12	119.60	120.90
Annual Growth Rate (%)							
1987	3.9	4.1	-24.6	-1.4	2.1	2.0	-0.5
1988	2.6	3.9	-12.1	0.6	-1.5	2.9	1.4
1989	0.0	1.7	2.8	3.6	-0.7	3.4	1.4
1990	0.3	5.8	-5.2	-0.3	-0.8	1.5	1.7
1991*	-3.6	3.0	-10.1	-1.2	1.3	1.1	-0.9

**Forecast. Indices for 1989, 1990 have been revised.*
Source: School of Business Administration, University of Evansville

Fort Wayne

Thomas L. Guthrie

Associate Professor of Business and Economics and Director, Community Research Institute, Indiana University-Purdue University at Fort Wayne

There is increasing evidence as this column is being written that the national recession has ended or will end shortly. Practically every economic barometer has had at least a modest uptick in activity; therefore, the pertinent economic question of the day nationally is not when the recession will end, but what will be the shape of the recovery? The logical extension of that for our purposes is: What will be the shape of the recovery, if any, in the Fort Wayne area economy?

The **Figure** shows the comparative performance of nonagricultural payroll employment in the Fort Wayne area economy before and after the three previous recessions: 1973-1975, 1980, and 1981-1982. The relative performance of the area economy to date in the current recession is also shown. To do this, I assumed that (1) the current national recession will end in July, and (2) area employment will fall an additional 1%—2,000 jobs—between April and July.

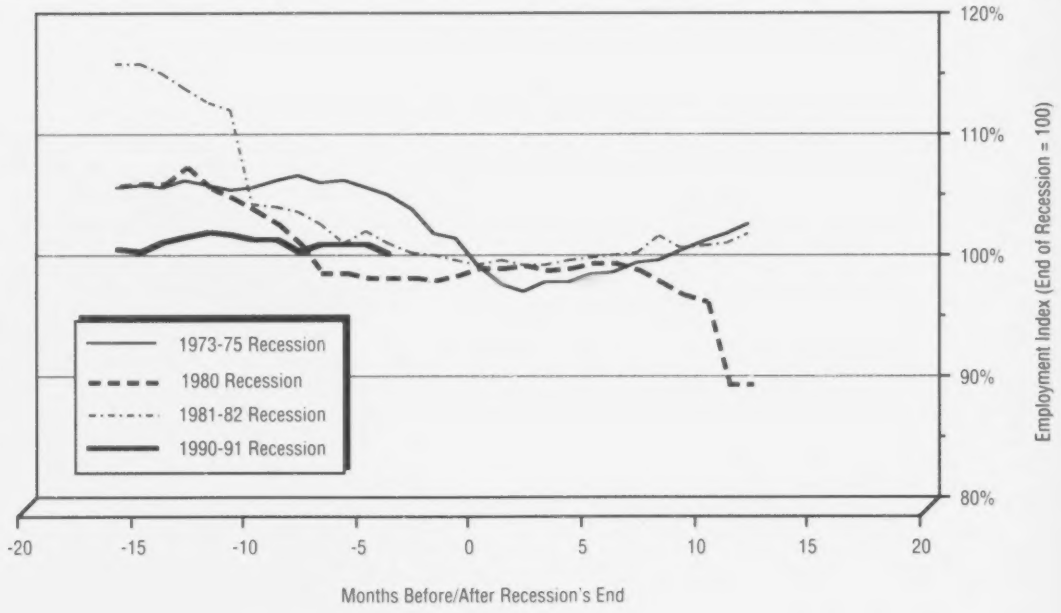
At least two observations stand out. First, the downturn in the Fort Wayne area economy during the current recession is minuscule compared to the three previous downturns. It appears almost as a non-event—except of course to the 3,500 who have already lost jobs and the projected additional 2,000 who will lose jobs.

The second observation is that the recovery path in area employment for two of the three previous recessions was similar. Recovery after the 1980 recession was aborted by the start in July 1981 of the 1981-82 recession. (As shown, the local economy began declining again in February 1981.)

One year after the 1973-75 and 1981-82 recessions ended, area employment recovered 3.4% and 2.6%, respectively. If recovery from the current recession were to track somewhere in between, employment would grow between 5,200 and 6,800 between July 1991 and July 1992.

Although there is casual evidence of a surplus of commercial office space in the Fort Wayne area, still there should be a healthy upturn in construction

Figure
Comparative Performance of the Fort Wayne Area Economy During/After Recent Recessions



The Fort Wayne area consists of Allen, DeKalb, and Whitley counties.
Source: Indiana Department of Employment

activity, given the combination of an expanding economy and relatively low nominal interest rates.

In conclusion, area employment is forecast to grow between 2 and 2.5%—4,000 to 5,000 jobs—between July 1991 and July 1992, with the distribution of the expansion evenly spread over the year.

The primary reservation with respect to the forecast has to do with the export portion of area economic activity. Data do not exist at this time, but it is logical to assume that one factor mitigating the downturn in the area economy was increased exports. However, with the trade-weighted value of the dollar having risen roughly 10% and the European economies weakening, one wonders how much of a drag exports will be on the area's economic recovery.

I concur with the forecast for the national economy contained herein that has the economy recovering the first year at roughly half the rate typically experienced. As a result of manufacturing's tight-fisted control of inventories, inventory liquidation in the current recession has been modest compared to previous recessions. Likewise, inventory accumulation during the recovery is likely to be modest.

Lafayette

Gerald J. Lynch

Associate Professor of Economics, Purdue University

Lafayette was carried along with the rest of the nation as the recession made a visit to the local economy. In March, unemployment rates rose to more than 3% for the first time in three years. Recently local unemployment rates have fallen, but it is too early to tell if that is a long-term trend. The economy has been bolstered by the news that the Caterpillar plant, which previously has been a manufacturer only, is going to become more of a self-contained business unit. This means that some 125 white-collar jobs will move from Peoria to Lafayette. The actual number of jobs created will be higher as support staff is hired to supplement the move.

A less encouraging note locally is the impact of the budget impasse. Even when the budget negotiations are completed, it does not appear that the employees of Purdue will receive a very large raise, if they receive a raise at all. What impact will that have on the economy? First, Purdue's influence in the local economy is significant. Not including the graduate teaching assistants, Purdue provides roughly 12% of the total jobs in the Lafayette SMA and just under 14% of the total spending power. The Lafayette economy obviously is dependent upon the power of Purdue employees to spend. Fortunately, that power has grown; in the past three years, the average raises at Purdue have out-paced the national rate of inflation by 2.8%, 3.0%, and 2.5%, respectively, for an average of 2.8%. That means that Purdue has been injecting real purchasing power into the economy. If there are no raises this year, and inflation runs about 4% as projected, then rather than adding real purchasing power to the community, Purdue will serve as a drag. Even if employment does not decrease, there is still not going to be the source of growth coming from West Lafayette that there has been in the past.

Thus the impact of this would not be seen in decreased employment at the West Lafayette campus, but perhaps in decreased employment or income for those people who depend on the purchasing power of the campus. In addition, some of the local manufacturing will not be able to escape the effects of the national downturn—automobiles and construction related employment will be affected, but, like the rest of the nation, should see a recovery by the summer. The impact of Purdue, however, could postpone the recovery of the Lafayette economy beyond that of the nation.

Richmond/Connersville/ New Castle

Ashton I. Veramallay

Director, Center for Economic Education, Indiana University East

The current recession is having its adverse effects on Richmond-Connersville-New Castle (RCNC). Decreased economic activity, particularly in the manufacturing sector, results in layoffs and hence a higher unemployment rate. This phenomenon is expected to continue for another quarter until there is an economic upturn. The unemployment rate in RCNC will then gradually move into single-digit range.

The lackluster economic performance is partly attributable to consumer spending. Despite the euphoria over the Persian Gulf War, consumers are still wary about the state of the national economy. Having been burned by previous recessions, they are not

buying big-ticket items on the same scale as in the expansionary phases. In practice, consumers are preempting the effectiveness of monetary and fiscal policy. Talking about fiscal policy, do we really have one? What we are witnessing is the height of fiscal incompetency. It is a clear abrogation of constitutional responsibilities, and we the people deserve better accountability of political stewardship. To ensure it, we must actively participate in the political process and deliberately focus on the real problems facing the economy.

Related to consumer spending is retail trade. It is likely to follow seasonal patterns, especially in fast food establishments, grocery stores, consumer malls, health care, financial services, and recreational amenities which, in turn, can improve the employment outlook. The retail sector in RCNC accounts for at least 30% of gross local product, and any employment gain is always good news. This sector typically fares better during a recession.

The traditional industries, automobile and housing, will play a secondary role to the export sector in pulling the national economy out of recession. Local firms with an export market are likely to do an above-average performance in the coming quarters. A weak dollar not only makes American goods cheaper and attractive to foreigners, but also helps narrow our trade deficit.

South Bend/Mishawaka-Elkhart/Goshen

John E. Peck

Professor of Economics and Director, Bureau of Business and Economic Research, Indiana University at South Bend

The mid-year assessment of the economic condition of the South Bend/Mishawaka and Elkhart/Goshen communities is based on an analysis of the latest available economic indicators for the area tracked by Indiana University at South Bend's Bureau of Business and Economic Research. A look at the indicators suggests that both communities continue to feel the effects of the recession that appeared in full force locally in the fall of 1990, and was the basis for the 1991 area outlook in the Winter issue of the *IBR*.

The accompanying **Table** summarizes the various indicators of local economic activity compiled by the BBER. These figures are seasonally adjusted and, with the exception of the unemployment rates and real estate data, are index numbers expressed as a percentage of 1986 base year values. It is noted that comparative indicators along with percentage changes are given for January and February 1991, the latest months for which the full range of data are available as the midyear outlook is prepared. To highlight longer-term trends, the same figures are also provided for February 1990.

South Bend/Mishawaka

Though not nearly as severe a drop in employment indicators occurred in February as in January, it is nevertheless clear that the 1990-91 recession continued to take its toll on area workers in the second month of the year. In South Bend/Mishawaka, this toll showed up in the manufacturing employment index, which was off nearly a full percentage point from the January figure, and down almost 7% from February 1990. The transportation equipment sector, which is linked most directly with automobile production, saw the largest decline—a drop of some 100 workers.

Several other South Bend/Mishawaka indicators showed modest improvement in the January to February 1991 comparison. Natural gas sales and seasonally adjusted car and truck registrations were among these. The largest gains came in housing construction data, where the number of housing permits issued, as well as the value of those permits, more than doubled. It should be noted, however, that these latter indicators are quite volatile on a month-to-month basis, so it is risky to draw conclusions with respect to emerging trends on such short-term fluctuations. It is also noteworthy that whereas these nonemployment indices rose in February, the year-to-year performance remains depressed in virtually all categories.

Elkhart/Goshen

As in South Bend/Mishawaka, the Elkhart/Goshen employment indicators declined in February. In that community, the February nonmanufacturing employment index led the way with a full 1.1% decrease from the previous month. Wholesale and retail trade as well as educational services each recorded 100 worker declines in February. In absolute terms, manufacturing employment rose during the month; however, after seasonal adjustment, the indicator fell by a fraction of 1 percent.

Remaining Elkhart/Goshen indicators were mixed when compared to January 1991. Energy sales rose, car registrations were up modestly, and the average value of housing permits increased. However, new truck registrations dropped 14.5%, and housing indicators—both new and resale housing—gave noticeably negative readings. As with its St. Joseph

Table
Economic Indicators: South Bend/Mishawaka-Elkhart/Goshen

	South Bend/Mishawaka					Elkhart/Goshen				
	February 1991	*January 1991*	*February 1990*	*% Change January 1991*	*From February 1930*	*February 1991*	*January 1991*	*February 1990*	*% Change January 1991*	*From February 1990*
Employment Indicators										
Nonagricultural employment[1]	113.4	114.3	113.8	-0.8%	-0.4%	111.5	112.0	117.8	-0.4%	-5.3%
Manufacturing Employment	88.7	89.5	95.3	-0.9%	-6.9%	102.5	102.6	110.2	-0.1%	-7.0%
Nonmanufacturing Employment	121.2	121.1	119.5	0.1%	1.4%	122.2	123.5	127.2	-1.1%	-3.9%
Unemployment Rate	6.3%	6.3%	4.6%			8.4%	7.9%	4.1%		
Help Wanted Advertising[2]	65.3	67.5	105.5	-3.3%	-38.1%	47.3	53.4	87.4	-11.4%	-45.9%
Utilities[3]										
Industrial Electricity Sales	94.2	99.9	105.5	-5.7%	-10.7%	102.4	102.8	110.7	-0.4%	-7.5%
Commercial Gas Sales	100.1	96.4	106.0	3.8%	-5.6%	97.6	94.7	104.7	3.1%	-6.8%
Industrial Gas Sales	65.8	64.7	82.1	1.7%	-19.9%	58.8	55.3	65.4	6.3%	-10.1%
Car and Truck Registrations[1]										
New Passenger Cars	53.7	51.9	59.9	3.5%	-10.4%	42.2	41.9	77.8	0.7%	-45.8%
New Trucks	61.9	58.0	75.5	6.7%	-18.0%	48.8	57.1	84.7	-14.5%	-42.4%
Housing Construction Data[4]										
Estimated Value of Permits	108.2	51.1	118.2	111.7%	-8.5%	146.7	151.5	230.6	-3.2%	-36.4%
Number of Permits Issued	95.4	46.6	96.2	104.7%	-0.8%	80.8	88.6	166.7	-8.8%	-51.5%
Average Value per Permit	112.8	94.8	106.8	19.0%	5.6%	177.9	169.2	137.9	5.1%	29.0%
Residential Real Estate Data										
Number of Active Listings	1,268	1,231	1,060	3.0%	19.6%	1,781	1,733	1,386	2.8%	28.5%
Average Days Listed	96	86	68	11.6%	41.2%	92	85	70	8.2%	31.4%
Average Market Price	$70,797	$72,508	$67,384	-2.4%	5.1%	$68,739	$69,975	$66,663	-1.8%	3.1%
% of Sale to List Price	95	96	95	-1.0%	0.0%	95	95	96	0.0%	-0.1%

All figures except for Unemployment Rate and Residential Real Estate Data are seasonally adjusted index numbers with base year 1986 = 100.
[1]St. Joseph and Elkhart Counties
[2]From South Bend Tribune *and Elkhart* Truth.
[3]Electricity Sales are South Bend and Elkhart. Gas Sales are St. Joseph and Elkhart Counties.
[4]St. Joseph County, excluding cities of South Bend, Mishawaka, Osceola, Walkerton, and New Carlisle. Elkhart County, excluding cities of Elkhart, Goshen, Nappanee, and Millersburg.

County neighbor, Elkhart County year-to-year comparisons were significantly depressed across the board.

Outlook

It continues to be our feeling that the recession will bottom out in the South Bend/Mishawaka and Elkhart/Goshen areas during the summer of 1991. Consecutive increases in the Department of Commerce's leading indicators, and accommodating monetary policy on the part of the Federal Reserve, tend to support this view for the nation as a whole. The dominance in St. Joseph County of industries (e.g., educational and health services industries) less sensitive to the business cycle than heavy manufacturing, and the tendency in Elkhart County for the recreational vehicle industry to lead the cycle, are local factors that help bolster this optimism.

Terre Haute

Marvin Fischbaum

Professor of Economics, Indiana State University

Six months ago it looked as if Terre Haute would weather the recession relatively unscathed. As of two months ago, signs still pointed to smooth sailing. It now appears that although the recession was slow to arrive in the area, and although its impact has not been severe, recovery may be gradual.

Unemployment estimates for the Terre Haute MSA released over the past three months have risen more than seasonally. During 1990 the unemployment rate generally tended downward, falling to its

minimum level of 3.7% in December. The usual seasonal pattern in Terre Haute is for unemployment to spurt upward in January to its highest level of the year, and to remain high for the remainder of the winter quarter. The increase in the unemployment rate to 5.5% in January somewhat exceeded the normal seasonal pattern. February saw a further increase to 5.7%, and March a jump to 6.3%. One has to go back to February 1989 to match the March rate of unemployment, or to find a lower level of employment.

That March unemployment level combined a 5.4% rate in Vigo County with a 10.1% rate in Clay County. The unemployment rate in Clay County had been 3.6% as recently as November. Much of that spurt can be traced to layoffs at Great Dane, but that builder of truck trailers recently announced a pickup in sales, the rehiring of workers, and the startup of a second shift.

Preliminary estimates of establishment employment for April point to at least a seasonal improvement. Jobs increased by 800, or 1.3%, over the previous month, and by 600, or 1.0%, over the level of April 1990. Employment gains were concentrated in the government services sector. On a month-to-month basis there were scattered gains elsewhere. On a year-to-year basis scattered gains were offset by small losses in construction and transportation.

For the city of Terre Haute, and the rest of Vigo County, a rapid further rebound in employment levels is not likely, as prospective losses are more palpable than prospective gains. Still ahead lies much of the effect of the gradual and civically responsible phase-out of operations at the downtown plant of Pillsbury, as well as the stealthy shutdown of Terre Haute Coke and Carbon. Orders for plastic film are weak, and scattered layoffs among firms in that industry might become more general. Retail sales, particularly of automobiles, have also been weak, reflecting existing softness in the economy, while presaging a possible source of further cutbacks. On the other hand, offsetting positive developments regarding industrial or commercial expansion have been largely absent. Plasma Fusion remains interested in Terre Haute, but progress towards a deal has been slow. The plan of Tri-Industries to add 25 jobs this year stands out as an isolated bit of good news.

Construction activity remains strong, but a gradual decline may set in. Building permits issued in the 12 months ending March 1991 held up well. The value of residential construction fell 9.5%, but nonresidential construction rose 303%. Perusal of permits issued in April and May discloses no dramatic change in the pace of building activity. A permit for the expansion at Bemis, issued in November, and for a new middle school, issued in May, dominate the value of nonresidential construction. However, little in the way of industrial or commercial construction is likely to commence in the second half of the year. Maintenance of the current pace of building activity will depend on actions taken in Indianapolis. Expectations are that construction of a new state prison in Sullivan County will be funded, but that Indiana State University will probably be denied additional bonding authority.

Real estate activity, as in much of the Midwest, has been a bright spot locally. For ten years in Terre Haute, buyers had the upper hand as an initial overhang of 2,000 unsold homes had worked down in rather gradual fashion. This spring, those wishing to sell and those wishing to buy came close to being in balance, at least for trade-up as opposed to starter homes. One sign of this was a marked increase in homes "for sale by owner." Realtors still listed 1,339 homes for sale at the end of the first quarter, but of these, approximately 180 homes were listed at $60,000 or higher. The median sales price remained at $50,000. In the first quarter 252 homes were sold, up 11% from the corresponding period in 1990, and the pace seems to have quickened in the spring.

Terre Haute did not, after all, escape the recession of 1990-91. But the impact to date has been mild, and this contrasts markedly with the severe hardships the region faced from economic dislocations in the 1980s.

Northwest Indiana

Leslie P. Singer

Professor of Economics, Indiana University Northwest

Our 1990-91 forecast predicted a mild recession terminating in about the third quarter of the current year. That appears to be about correct. We have slightly overestimated the level of steel employment, partly because of some structural changes that have taken place at Inland Steel. The current level of steel employment of just under 33,000, along with a slightly lower work week, is likely to continue for most of 1991, except for little seasonal swings. Autos are still weak and the replacement cycle for automobiles will not kick in until about mid or late 1992. The demand for structural steel will also rise toward the end of 1991, but that market has increasingly less influence on Northwest indiana steel output.

In the longer run, the prospects for steel are less attractive than they were just a few years ago. The

Table 1
Seasonally Adjusted Data for Northwest Indiana (Employment in 000s, Forecast 1991-92)

	1Q 1990	*1Q 1991*	*2Q 1991*	*3Q 1991*	*4Q 1991*	*1Q 1992*	*2Q 1992*	*3Q 1992*	*4Q 1992*	*Ave. Annual Growth 1991*	*Ave. Annual Growth 1992*
Total Employment	241.8	244.0	244.6	245.1	245.7	246.9	248.0	249.1	250.8	1.49%	1.63%
Nonmanufacturing	185.0	189.4	190.5	191.4	192.3	192.7	192.6	194.3	196.2	1.60%	2.05%
Manufacturing	56.8	54.6	54.1	53.7	53.4	54.2	55.4	54.8	54.6	-0.04%	0.84%
Steel	34.9	32.7	32.9	32.7	32.9	33.8	33.6	34.1	34.4	-0.09%	0.07%
Non-Steel	21.9	21.9	21.2	21.0	20.5	20.4	21.8	20.7	20.2	0.00%	0.49%
Non-Goods Producing	172.7	174.8	175.7	176.3	177.5	175.1	176.9	177.3	178.6	1.66%	1.99%
Trade/Finance/Health	68.9	66.2	65.1	67.3	70.0	68.0	68.6	68.9	69.4	1.69%	1.99%
Government/Education	33.7	33.7	34.0	34.1	33.9	33.7	33.9	33.7	34.0	0.89%	0.85%
Miscellaneous/Services	55.9	58.4	58.9	57.3	57.8	57.6	58.0	58.9	58.6	1.49%	1.59%
Transportation/Utilities	14.2	16.5	17.7	17.6	15.8	15.8	16.4	15.8	16.6	-4.43%	5.06%
Construction	12.3	14.6	14.8	15.1	14.8	17.6	15.7	17.0	17.6	---	---
Annualized Payroll ($ billion)											
Manufacturing	2.430	2.014	2.086	2.106	2.108	2.136	2.215	2.239	2.252	4.69%	5.45%
Steel	1.327	1.145	1.271	1.251	1.213	1.232	1.251	1.273	1.297	4.83%	5.32%
Non-Steel	0.679	0.668	0.691	0.701	0.709	0.719	0.749	0.752	0.756	4.93%	5.18%
Manufacturing Average Weekly Hours											
Total Manufacturing	43.9	40.6	39.3	39.1	39.1	41.8	41.9	42.3	42.1	---	---
Steel	45.5	39.1	38.8	39.1	39.5	39.9	40.8	41.2	41.3	---	---

principal problem is the weakening financial position of steel and difficulties with reinvigorating the local labor force. Aging steel employees are being replaced by a less skilled junior force at a time when the demand for technically skilled personnel is rising. Steel companies have experienced gradually declining operating incomes per ton of steel since 1988, when net unadjusted income per ton was 44 dollars. In 1991 there was a loss of 52 dollars per ton and the situation has not yet stabilized. Automobile companies, which have their own price pressures to contend with, in turn put pressure on steel companies to cut prices—as much as 3 to 4 percent. With steel prices steady, both union and management wages moderately rising, and few new technological breakthroughs, we foresee a slow recovery in steel profits.

Steel companies have succeeded in almost completely eliminating labor-intensive processes such as bar and structural mills. They made great productivity gains by concentrating on capital-intensive and technologically advanced flat-rolled products. However, for the next decade they are facing a dilemma: What can be eliminated next, if the pressures on net operating incomes continue? Capital intensive processes such as flat-rolled products are very sensitive to slow-downs in demand, because of rising average unit costs when plants are underutilized.

It seems that both steel and automobile companies have given up on countering international competition by increasing domestic productivity. They appear to rely on "a tidal wave of suits," to use their own words. They hope to win protection from foreign competitors. In the long run such an attitude will benefit no one except the legal establishment.

At present, Northwest Indiana is not feeling the full impact of declining steel employment. We have turned from a high wage economy to a high pension economy. We are the beneficiaries of high steel employment of the past; however, that source of outside income is cresting and will diminish in the next decade.

Where will the new growth impetus originate? The politically correct view is that the push will come from a new regional airport. The reports estimate an increase of 140,000 local jobs and a $3 billion payroll over several years. The local non-goods-producing work force would have to almost double. Over 14,000 homes will have to be replaced, including noise corridors, and almost 40,000 new homes will have to be built along with new schools, new public parks, and a large infrastructure. Tax rates will soar. Numerous urban neighborhoods will be eliminated and their tax base reduced. Populations from Gary, where housing values are low, will seek replacement housing in Hammond. Hammond residents, where property values and incomes are higher, will seek replacement housing in south Lake County and Porter County. The airport will attract hotels, convention centers, and some industry. Almost all will locate outside the remaining urban belt, as far west as possible, because the center of gravity of the airport's drawing range will be metropolitan Chicago.

How many potential jobs will be filled from local supply? I estimate not more than 20 to 25%. There

will be a few thousand semi-skilled jobs during the construction phase. Unskilled jobs, such as baggage handlers, custodians, etc., will be available when the airport becomes operational. However, most of the labor force at airports is young, skilled, and educated. Most will be imported by the airlines.

Ultimately a new airport will be a boon to Northwest Indiana, and to its universities, regardless of its eventual location. As far as reviving the city whose name the airport may carry, the prospects are much less certain. The airport spans several jurisdictions. One possible benefit might be a realization that the large population influx induced by the airport and the secondary commercial and industrial development may indeed require more efficient metropolitan government in Lake County.

In the short run, however, we still have to deal with the tail end of a recession and a slow recovery. Retail sales will start edging up in the third and fourth quarters. We should have a good Christmas in Northwest Indiana. Big-ticket items will lag other retail categories for most of 1991. The overexpansion in supermarkets in some areas is driving food prices higher, but that will level off in 1992—which looks like a good year, in spite of continued lethargy in local manufacturing.

The energy and health care sectors show continued growth. Housing, which slowed slightly in 1990-91, will also rebound in 1991-92. Commercial construction will be at a high level.

Burns Harbor continues to attract small industrial plants in Porter County, most steel related and some partly foreign owned. This trend is likely to continue, eventually adding up to 2,000 new manufacturing jobs. Small plants in south Lake County, Crown Point, and elsewhere are also planning modest expansions as the national recovery progresses. A major discouragement to industrial entry is the continuing fiscal exigencies in Lake County's expanding public assistance programs.

Table 1
Louisville Metropolitan Area Establishment Employment,[1] 1987-1991

	Total Farm	*Manufacturing*	*Nonmanufacturing*
Annual Averages			
1987	437,400	87,100	350,300
1988	454,600	88,500	366,100
1989	467,200	88,800	378,400
1990[2]	479,800	89,000	390,800
Quarterly Averages[2]			
1Q 1990	476.5	88.7	387.9
2Q 1990	477.6	89.1	388.5
3Q 1990	479.4	88.9	390.5
4Q 1990	485.5	89.2	396.3
1Q 1991	490.5	88.1	402.4

[1]Employment in establishments located in Clark, Floyd, and Harrison counties in Indiana, and Jefferson, Oldham, Bullitt, and Shelby counties in Kentucky.
[2]Subject to revision by data source in 1992.
Source: Kentucky Cabinet for Human Resources.

Louisville/Jeffersonville/ New Albany

Fay Ross Greckel

Professor of Economics, Indiana University Southeast

The Louisville metropolitan area appears to have weathered the recession fairly well. Although some sectors were seriously affected by the national downturn, the local economy as a whole continued to grow slowly through early 1991.

Recession is not easy to track on the local level. Nationally it is identified and measured by declines in total output (real GNP), but total output is not really reported or calculated for local areas. The most comprehensive local data available on a fairly current basis are employment statistics. Because employment and unemployment tend to be lagging indicators (meaning that output changes generally persist for a while before people are fired or rehired), they are likely to reflect what happened to output a few months earlier.

The seven-county metropolitan area added 12,600 jobs in 1990—the same moderate growth that occurred in 1989. (The seven counties are Clark, Floyd, and Harrison in Indiana, and Jefferson, Oldham, Bullitt, and Shelby in Kentucky.) More important, as **Table 1** shows, after adjusting for normal seasonal variations the number of jobs in the metropolitan area increased quarter by quarter throughout 1990 and early 1991. In fact, employment in first quarter 1991 averaged a healthy 14,000 jobs ahead of first quarter 1990. However, the gap between 1991 employment and employment in the same month of 1990 was greatest in January and narrowed each month thereafter, with preliminary April statistics showing only 10,600 more jobs than 12 months earlier. While this may indicate a lagged response to the national recession, the fact that employment totals keep increasing, albeit more slowly than previously, is still quite encouraging.

Manufacturing employment, which had inched upward for the past three years, declined in recent months. By April it was running about 1,000 jobs

Table 2
Establishment Employment in Clark, Floyd, and Harrison Counties (IN)

	Total Nonfarm	*Manufacturing*	*Nonmanufacturing*
1Q 1990	63.0	13.6	49.3
1Q 1991	60.5	13.7	46.8

Data subject to revision in 1991.
Source: Indiana Department of Employment and Training Services.

Table 3
Residential Building Permits, 1987-1991 (Number of Dwelling Units)[1]

	Jefferson Co. Kentucky	*Clark Co. Indiana*	*Floyd Co. Indiana*	*Harrison Co.[2] Indiana*	*4-County Total*
Total for Year					
1987	3,169	224	397	157	3,947
1988	2,686	341	387	148	3,562
1989	2,304	321	548	140	3,313
1990	2,481	322	470	189	3,462
Total for First Four Months					
1987	1,816	72	127	50	2,065
1988	601	64	141	46	852
1989	645	93	212	41	991
1990	1,048	55	209	38	1,261
1991	614	71	106	53	841

[1]Number of residential units for which building permits were issued, including single-family dwellings, apartment units, and condominium units.
[2]Excluding Corydon, for which data were not available.
Source: Kentuckiana Regional Planning and Development Agency.

behind the year-earlier total. As a result of the drop in home construction, both nationally and locally, employment declines occurred in such industries as lumber and wood products, furniture and fixtures, and electronic equipment (including home appliances). The impact of the national recession was also apparent in job losses in the industrial machinery sector and in brief temporary layoffs in the auto industry. Most other manufacturing industries, however, posted employment gains, and both average weekly hours and average weekly earnings were up in most manufacturing areas.

Employment gains were widespread outside of manufacturing. In early 1991, retail trade provided 5,000 more jobs than the year before, with increases concentrated in eating and drinking establishments, general merchandise stores, and food stores. Health services gained 3,400 jobs, other services added another 1,000 positions, and state and local government also employed 1,000 more workers than the previous year. Even construction and trucking/warehousing—sectors that ordinarily decline in a recession—employed several hundred more workers than in 1990.

When we narrow our focus to the metro area's Indiana countries—Clark, Floyd, and Harrison—we get a different employment picture. The Indiana Department of Employment and Training Services reported 2,500 fewer jobs in establishments located in those three counties in first quarter 1991 than a year earlier (see **Table 2**). As we have noted before, here manufacturing employment appears to be holding its own, with a gain of about 100 jobs over last year. The average factory work week is nearly an hour shorter than last year, but average weekly earnings are still up.

Most of the job losses in the southern Indiana counties occurred in federal and local government positions. The Census Bureau cut back its work force by about 900 with the end of the population census project; at the local level, most of the 1,000 positions lost were in educational services, an area that will continue to experience personnel reductions due to budgetary constraints. In the private sector, retail trade employment shrank by about 800 jobs, compared to first quarter 1990.

These statistics refer to jobs located in southern Indiana; they do not necessarily indicate the employment status of *residents* of southern Indiana, many of whom work elsewhere in the metropolitan area. In fact, the April unemployment rate estimated for residents of the three Indiana counties was slightly lower than for the rest of the metropolitan area. And both the Clark/Floyd/Harrison and the metropolitan area unemployment rate estimates have been running below the respective state unemployment rates and the national unemployment rate—and have averaged only slightly higher than last year. Whereas this again suggests that the Louisville area has fared relatively well in this recession period, it should be noted that the unemployment rate would have been higher if some job seekers had not become discouraged and dropped out of the labor force.

A particularly encouraging development is a reduced demand for the services of the emergency food distribution agency, Dare To Care. There was a 15% decline in food parcels distributed during the January-to-April period this year. The agency's statistics suggest that whereas fewer families needed aid this year, a larger percentage of the families needed help more than once.

Some sectors are clearly experiencing the national downturn. Home buying and residential construction are major examples. Nearly 40% fewer residential building permits were issued between January and April 1991 than in the first four months of 1990 (see **Table 3**). Permit issuance actually increased in Clark and Harrison counties (IN), but

declined sharply in Floyd County (IN) and Jefferson County (KY). We should note, however, that in previous years the permits issued between January and April were not a reliable indicator of the number of permits issued in later months.

Between January and May, multiple listing home sales in the southern Indiana counties were nearly 10% lower than in the same period of 1990. However, since the average home price had risen about $4,000 (to $61,400), the dollar volume of sales was actually higher than in 1990.

As elsewhere in the nation, car sales are off sharply this year. New car and light truck sales in Clark, Floyd, and Jefferson counties were 21% lower in the first four months of 1991 than in the same period of 1990. Dealerships in the southern Indiana counties fared worse than those in Jefferson County.

The outlook for the remainder of the year entails a continuing pattern of strong and weak sectors, with moderate growth overall. Industries tied into the national economy will benefit as the U.S. pulls out of the recession. Building activity and related industries should pick up as the year progresses, but car sales will probably remain rather weak. Tight government budgets are likely to keep employment from rebounding in that area, but both heavy industry and consumer-related industries should see growth in the months ahead. All in all, 1991 is likely to record less vigorous growth than 1990, but it will still be a year of moderate growth for the Louisville area economy.

Census '90 Quick Release Report
STF1: #1 - Counties & Places

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POPULATION	HOUSEHOLDS BY TYPE	HOUSING
Female & Male	Family	Occupancy
Age groups	Married couple	Rent / Own
Race	Female householder	Vacant by type
Hispanic origin	Male householder	Units in structure
	Nonfamily households	Value / Rent
		Occupied, by race

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